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THE AGRICULTURAL OUTLOOK FOR THE SOUTHERN STATES, 1931-32

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Assisted by Representatives of the State Agricultural Colleges and Extension Services of the Southern States, the Federal Extension Service, and the Federal Farm Board

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DOMESTIC AND FOREIGN DEMAND

The domestic and foreign demand for farm products during 1931 has been further curtailed. The moderate recovery in industrial activity during the first five months of 1931 in the United States and in some foreign countries gave way to a further recession. Consequently the demand for farm products by October, 1931, reached the lowest level during the current depression.

The extent of the recession in domestic demand that American farmers have faced during the last 12 months is indicated by the falling off in industrial output of more than 40 per cent from 122 (the Federal Reserve Board Index as percentage of 1923-1925 average) in September, 1929, to 91 in September, 1930, and to 76 in September, 1931; by a decline in factory pay rolls during the same 2-year period from 110 in September, 1929, to 60 in September, 1931; and by a decline in building activity (value of contracts awarded) from 110 in September, 1929, to 59 in August, 1931. The effect of this depression on agriculture is reflected in the reduction in gross farm income from a total of nearly \$11,900,000,000 in 1929 to \$9,300,000,000 in 1930, and to less than \$7,000,000,000 in 1931.

The industrial depression has had its greatest effects on agriculture through a drastic lowering of the level of farm prices. The level of prices received by farmers fell from 140 per cent of pre-war prices in October, 1929, to 106 in October, 1930, and 68 in October, 1931. Part of the abrupt decline has been offset, however, by a decline in prices paid by farmers for commodities

usually bought by them, although this decline has been far less than the fall in prices of farm products. Although prices received by farmers declined during the 2-year period from 140 to 63, or about 50 per cent, the prices paid by them declined from 154 per cent of pre-war prices in October, 1929, to 126 in October, 1931, or only 18 per cent. The greater decline in prices received by farmers reduced the relative exchange value or purchasing power of farm products from 91 per cent of their pre-war exchange values in October, 1929, to 54 per cent in October, 1931, or a decline of nearly 40 per cent. Farm wages have also declined considerably from 174 per cent of pre-war levels in October, 1929, to 150 in October, 1930, and to 113 in October, 1931—or about 35 per cent—but other important expenditures such as taxes and interest on farm debts remain practically unaffected by the depression.

Although industrial activity during the last 12 months drifted to an exceedingly low level, certain lines of production have maintained a good part of the improvement they made early in 1931, particularly those lines producing consumers' goods out of agricultural products (such goods as textiles, boots and shoes, and foods). In April of 1931 these latter industries produced about 11 per cent more than in December, 1930, the previous low level, and in September, 1931, were still producing about 7 per cent more than last December, but the heavier industries, such as automobiles and iron and steel, which also made a recovery of 11 per cent by May of 1931 from the preceding December, declined by September to a point 15 per cent below the December level.

By the time the business depression of 1920-21 had been in progress 18 months, recoveries in certain important fields were well under way—as for example in the textile, automobile, and building industries. In the present depression, already nearly two and a half years in duration, only the consumer industries—textile, boots and shoes, and foods—are at a higher level than last December, while the others reached in September and October the lowest levels so far in this depression. These low levels of industrial production mean that stocks in retail channels are being consumed and are not being replenished adequately and that sooner or later the need for replenishment may become a factor in revival.

However, certain elements have appeared in the domestic business situation during the last few weeks which may tend toward a restoration of business confidence. Among them are the organization of the National Credit Corporation to strengthen certain banking conditions and to restore confidence; a rise in certain commodity prices, such as cotton and wheat; and a rise in industrial stock prices during October. A good part of the rise in the prices of wheat and of industrial stocks since the lowest level of this depression reached on October 5 has been maintained and the higher levels of cotton and wheat prices have imparted a measure of stability to the general level of commodity prices. They have also tended to improve the purchasing power of wheat and cotton producers here and abroad and to affect favorably those banking conditions that have become strained during the last year because of the low prices of those and other commodities. Although here and there other favorable developments appear to be taking place, farmers should bear in mind that as yet there has been no substantial improvement in industrial activity and factory employment. Usually some time is required, even after the decline in business has ceased, before a substantial improvement in domestic demand becomes apparent.

The foreign demand for American farm products was reduced during the 1930-31 season to pre-war levels as a result of decreased purchasing power abroad, increased foreign competition, and unsettling influences of serious financial conditions. Although some improvement in industrial activity took place in Canada and Germany during the first few months of 1931, similar to that which developed in the United States, foreign business conditions receded further during the summer of 1931 to the lowest levels of this depression.

Curtailed purchasing power abroad, particularly in those countries that take most of our farm products, is indicated by a much lower level of industrial activity, by increased volumes of unemployment, and by a falling off in the volume, price, and value of our commodities exported during the last two seasons.

The reduction in industrial activity in different countries (for which data are available) has ranged from 15 to 20 per cent in France and Japan, to 30 per cent or more in other European countries.

In Canada, the decline in industrial activity has paralleled that of the United States, with a temporary recovery in the spring followed by a further decline in the summer months. The decline from the 1929 levels has also been about as great as that experienced in the United States. In Great Britain, industrial activity declined about 30 per cent from a peak in the last quarter of 1929 to the low levels in the summer months of 1931. In France, where industrial activity was maintained at a high level well into 1930, the reduction since July of that year has amounted to at least 15 per cent. In Germany, Poland, and Austria, the decline since the high levels of 1929 has amounted to about 30 per cent. In Japan, the decline in industrial activity has been somewhat less, apparently about 20 per cent since the last quarter of 1929.

The total value of domestic agricultural exports amounted to \$1,038,000,000 for the 1930-31 season compared with \$1,496,000,000 in 1929-30 and \$1,847,000,000 in 1928-29, a decline in two years of \$809,000,000, or about 44 per cent. The value of exports for the last season was the lowest since 1910.

This considerable reduction in the value of exports reflects a falling off both in quantities and in prices. The total volume of exports declined from 117 per cent of pre-war average exports in 1928-29 to 97 in 1929-30, and to 90 in 1930-31, lower exports of cotton and grains being the chief items contributing to this decline in volume. If account is taken of lower commodity prices in general and of the volume exported, it appears that foreign demand during 1930-31 in the aggregate was about 33 per cent lower than it was two years ago and had fallen to about as low a level of foreign demand as this country has experienced in any year since 1900. This recent decline associated with the world-wide depression is apparently an accentuation of the downward trend in foreign demand which set in after the high levels reached at the end of the World War, the downward trend since then reflecting the great expansion that has taken place in foreign competition, in such products as wheat, pork products, and cotton.

The downward trend in foreign demand is also revealed when the volume of farm products exported from the United States is compared with the volume produced. In 1919-20, we exported about 17 per cent of our total farm production; in 1923-24, a year of ample supplies of wheat abroad, we exported about 13 per cent; in 1924-25 the large wheat exports raised this percentage to 16, but the increasing foreign competition particularly in wheat and the reduced foreign purchasing power particularly for cotton, pork, and other products, has reduced the volume of exports from the United States in 1930-31 to less than 10 per cent of the total production.

The export demand situation in individual commodities is discussed in the respective commodity sections of this report.

The present generally unfavorable foreign economic conditions are being affected by serious financial problems. The near collapse of Germany's financial structure during the summer and the departure of England and certain other European countries from the gold standard have contributed to the general feeling of uncertainty.

In Great Britain, by far the leading foreign market for southern agricultural products, the departure from the gold standard is of outstanding significance. There is already some evidence of a stimulus to British trade and industry. Its influence on the demand for American agricultural products is mixed. The British demand for cotton, an indispensable raw material, is being increased, whereas the demand for certain other products, such as tobacco, is being diminished to some extent. These influences are discussed in connection with the commodity sections of this report.

An improvement in the demand situation in continental Europe depends largely upon developments in Germany. The departure of England from a gold basis has added somewhat to Germany's difficulties by placing England in a more favorable competitive position, and thereby tends toward reducing Germany's favorable balance of trade. French reports indicate that France is feeling more and more the effects of the world crisis. French industrial output has been decreasing and the visible balance of trade continues unfavorable. These conditions are being intensified by increased British competition.

In the Orient the demand outlook is not seriously menaced by unsettled political and military matters. In general, the Orient continues to be a good outlet for some of the farm products of the United States, especially for cotton and tobacco. The Chinese boycott on Japanese goods has diverted some

trade in cotton textiles from Japan to England. In spite of this development Japan continues to take quantities of American cotton, at the prevailing low prices, that are larger than the quantities taken a year ago. The small Chinese cotton crop is an additional factor favoring substantially larger imports of raw cotton by China. A somewhat more favorable silver exchange has slightly improved the buying position of China in comparison with a year ago.

A restoration of confidence in the international economic and financial situation must be a forerunner of any sustained improvement from the present seriously depressed conditions. Much will depend upon the results of international negotiations now under way or in prospect.

CREDIT

The outlook in the Southern States for production credit in 1932 is complicated by a number of conflicting influences. Local bankers, merchants, and dealers are in a more restricted position than they were a year ago. Credit corporations, on the other hand, have increased substantially in number and volume of operations. This development, together with loans from Federal emergency appropriations, and aid rendered by the Red Cross, partially offset during the 1931 growing season the curtailment of credit which country banks found necessary. Farmers now have little cash, but their supplies of food and feeds are abundant. Shortage of these supplies in important areas during the early part of the 1931 season required extensive borrowing for the purchase of supplemental feed and food.

The lending power of country banks varies closely with changes in the level of deposits. Deposits have been decreasing in southern banks since 1928, with the greatest declines occurring in 1930 and 1931. On June 30, 1931, the individual deposits of country national banks in eight of the cotton-growing States totaled approximately 14 per cent lower than a year earlier and 23 per cent lower than on June 30, 1929. Demand deposits of member banks of the Federal reserve system, in places of less than 15,000 population, declined even more than this, the corresponding percentages being approximately 20 per cent and 31 per cent.

The primary cause of these declines in deposits was the low income from the cotton crop, although bank suspensions and drought also have been important factors. The 1930 drought, by reducing supplies of home-grown feed and food, increased the use of deposits for the purchase of supplemental supplies. Bank suspensions in 1930 were two-thirds more numerous than in any other year since 1920; and in the first nine months of 1931, although showing a decrease from the year before, were considerably above the average for corresponding periods of the preceding five years. Notwithstanding the low income received for the 1930 cotton crop and the other adverse factors that have been mentioned, country national banks in Southern States reduced their outstanding loans more than in proportion to the decline in deposits and by June 30, 1931, they had slightly larger holdings of securities than was true a year earlier.

To accomplish this reduction of outstanding loans, advances on the 1931 crop were of necessity closely restricted. Low and falling prices during the planting and growing season added further to the conservatism with which bank advances were made. The demand situation was somewhat eased as the growing season advanced by the abundant feed and food crops that were grown in 1931. The conservatism with which 1931 loans were made and the greatly increased self-sufficiency of farmers are both favorable factors in the present banking situation of the South.

Agricultural-credit corporations were increased substantially in number and resources during 1931, particularly in the areas that suffered most from bank suspensions and a shortage of feed crops. This development was encouraged and assisted by advances from the fund that the Secretary of Agriculture set aside, under authority of the act of February 14, 1931, for loans to individuals to be used in capitalizing credit corporations, livestock-loan companies, and like organizations, and by advances from a fund appropriated by the State of Arkansas for a similar purpose within State boundaries. Twenty-seven southern agricultural-credit corporations were supplied with part of their capital through loans to individuals from the Federal fund, and a considerably larger number was established in Arkansas by means of funds supplied by that State. Several

cooperative-marketing associations have received substantial advances from the Federal Farm Board for the capitalizing of agricultural-credit cooperatives. Agricultural-credit corporations obtain the greater part of their loan funds by rediscounting farmers' notes at Federal intermediate credit banks.

A very considerable part of the production credit used by southern farmers is extended by merchants and dealers through sales on a time basis. These middlemen necessarily rely, in turn, upon advances from local banks and credit allowances from their supply houses. At present they are handicapped by a large volume of delinquent accounts.

Interest rates charged by country bankers and time charges made by local merchants and dealers are determined largely by custom and past experience, with the result that they do not change materially with conditions that affect the central money markets. Only the rates charged by credit corporations are tied directly to the central money-market rates. Credit corporations are now permitted to charge farmers a rate which is 3 per cent higher than the discount rate of Federal intermediate credit banks and the latter rate is fixed at 1 per cent above the rate borne by the last issue of Federal intermediate credit bank debentures. This seemingly large margin above the cost of obtaining funds in the central money markets is necessitated by the high costs and risks of making comparatively small loans to individual farmers, whose security often consists largely of crops yet to be produced and harvested. Recently rates in the central money markets have assumed an upward trend and some increases have occurred in the discount rates of the Federal intermediate credit banks.

The conditions of farm-mortgage financing have been unfavorable. Land values have been declining for several years and there has been a considerable increase in delinquencies and foreclosures. Country banks have even less funds available for mortgage financing than a year ago, and outstanding loans of life-insurance companies and joint-stock land banks are declining. Loans made in 10 cotton States by Federal land banks, however, were slightly larger in volume during the first nine months of 1931 than in the corresponding period of 1930, although showing a decrease from preceding years. New loans are made on a very conservative basis. In general, new loans from all sources are increasingly difficult to obtain. Renewals of loans that represent a high proportion of farm value are frequently conditioned upon curtailment of the principal amount of the loans. Owing to the depletion of current resources during the last two years many farmers now need mortgage financing to provide themselves with working capital and to fund current indebtedness.

Despite exceptionally low rates in central money markets in the first half of 1931, mortgage rates have remained at comparatively high levels. Losses sustained on past advances and costs incident to the increased volume of foreclosures have prevented mortgage rates from falling. Moreover, Federal land banks have been handicapped by a depressed market for securities and the resultant high cost of obtaining funds by sale of Federal land bank bonds. These banks are not permitted to charge more than 6 per cent on mortgage loans. At present, the rates of nine Federal land banks are $5\frac{1}{2}$ per cent, whereas the land banks at Baltimore, Columbia, and New Orleans are lending at 6 per cent.

For cooperative-marketing associations and the larger and stronger private commodity marketing organizations, the supply of marketing credit, which comes largely from central money markets, appears to be ample. Cooperative-marketing associations are able to borrow from Federal intermediate credit banks as well as from metropolitan banks. Some of them have also received substantial loans from the Federal Farm Board. Despite the recent stress on metropolitan bank reserves arising from increased currency circulation and gold exports, funds remain abundant for loans on a conservative basis with which to market staple crops.

Interest rates on marketing credit are governed largely by conditions of the central money markets. After reaching, during the summer, the lowest level since before the World War, central money market rates advanced from September 19, 1931, to October 26, 1931, as follows: Bankers' acceptance from a rate of $\frac{7}{8}$ per cent to $3\frac{1}{4}$ per cent; call loans from $1\frac{1}{2}$ per cent to $2\frac{1}{2}$ per cent; and commercial paper from 2 per cent to 4 per cent.

These rate advances were associated with a sharp curtailment of \$734,000,000 or nearly 15 per cent of the monetary gold stock and a considerable increase in the volume of money in circulation, both of which constituted a heavy drain on the reserves of commercial banks. That the increased currency and gold withdrawals have not had a greater effect upon the interest rate structure

is due to the fact that the Federal reserve banks largely offset these withdrawals by increasing their purchase of bills, such holdings advancing from \$218,000,000 on September 16, to \$725,000,000 on October 28.

To summarize: Marketing credits appear to be considerably more ample than production credits and the most serious difficulties are found in connection with mortgage credit. The restricted supply of production credit is capable of meeting a large part of the demand for such credits, since the need for credit with which to purchase supplemental food and feed supplies has been minimized by the abundance of home-grown supplies produced in 1931. Mortgage credits have been curtailed by several important loan agencies, but the need for such credits has been increased by the exhaustion of working capital on farms and an increase in farmers' unpaid current indebtedness. Interest rates for marketing credits and for production credits obtained from agricultural credit corporations have moved upwards from the exceedingly low levels of midsummer 1931. There has been no material change in rates for mortgage loans.

COTTON

The severe declines in cotton prices during the last two years have resulted from greatly reduced demand and large supplies of cotton, and from the more general conditions that have brought about a lowering of international commodity price levels. The world business depression and falling consumer incomes not only reduced the price of cotton but reduced the quantities consumed. World production has not been reduced in line with the declining consumption and large stocks of cotton have accumulated. Following the unsatisfactory prices received for the 1930 crop, cotton farmers in the United States reduced their acreage 10 per cent and used less fertilizer, in 1931, but weather conditions were exceptionally favorable for the crop and the weevil did less than average damage. The yield forecast for 1931, consequently, is one of the highest on record. Weevils have become more numerous and widespread than they were in the fall of 1930. Cotton acreage in some of the foreign producing countries has been cut because of low prices. Cotton consumption increased in the United States during the latter half of the 1930-31 season and was well maintained through September, 1931. Cotton textile mill activity has increased recently in Great Britain and in some of the continental European countries there appeared to be an improvement before the 1930-31 season ended, but generally the low consumer buying power and financial difficulties continue to depress trade. Japan and China have been taking large quantities of American cotton during recent months partly because of a smaller Chinese crop, low prices of American cotton, and the narrow margin of American over Indian cotton; but Japanese cotton mills have agreed to curtail yarn output slightly.

The world supply of American cotton for the 1931-32 season is now estimated at about 25,700,000 bales. This supply is 5,500,000 bales larger than the supply for 1930-31 and is around 2,400,000 bales larger than the previous record supply of 1926-27. The significance of the size of the present supply is indicated when the size is compared with last year's low consumption of 10,900,000 bales and the previous year's consumption of 13,000,000 bales; it is large even in comparison with the 1926-27 record consumption of 15,800,000 bales of American cotton.

World stocks of American cotton at specified locations on August 1, 1931, amounted to 8,800,000 running bales according to compilations from official reports for the United States and trade reports for foreign countries. This was an increase of 2,600,000 bales over the previous year and was second only to the record carry-over of 9,200,000 bales reached on August 1, 1921. Most of the year's increase occurred in the United States where the carry-over amounted to 6,262,000 bales compared with 4,322,000 bales a year ago.

The 1931 cotton crop of the United States, forecast as of November 1, is 16,903,000 bales, of 478 pounds net, and has been exceeded only by the 17,977,000-bale crop of 1926. The increase in the crop from the 13,932,000 bales produced in 1930 came despite a reduction in acreage and as a result of a material increase in the yield per acre.

The cotton acreage in 1931—40,889,000 acres—is nearly 10 per cent below the 45,091,000 acres harvested in 1930, and is the smallest acreage since 1927. The reduction in 1931 is a result of the low prices received for the 1930 cotton crop and the need for larger supplies of food and feed crops. A larger reduc-

tion probably would have occurred but for the low prices of alternative crops and the movement of laborers from industrial centers to farms. The drought of 1930 had so reduced the production of food and feed crops that it was essential that farmers in some cotton States give prime attention to those crops during 1931. Because of reduced incomes farmers who usually buy large quantities of food and feed also planted more of these crops in 1931.

Cotton prices are now much lower than in 1930. However, prices of other crops cotton farmers grow have also declined during the last year, in some cases more than cotton prices have declined. The South as a whole is undoubtedly better supplied with food and feed crops now than it has been in years. The supply of farm labor in the South is unusually large. On October 1 the supply in the Southern States was 107 per cent of normal and over 150 per cent of the index of demand. The supply was larger and the demand was lower than in October, 1930.

Supplies of production credit from local banks and from merchants in the South are strongly affected by the income from cotton and other cash crops. Largely as a result of low cash income during the last two years, deposits in country banks have fallen considerably and the volume of past-due loans has increased. Merchants also are handicapped by an excessive number of delinquent accounts. These local institutions, consequently, are not in position to extend as much credit as usual or even as much as during the last season. During the 1931 growing season local banks and merchants in the drought areas were supplemented, as credit agencies, by a substantially increased number of agricultural-credit corporations, which obtained their loan funds mainly from Federal intermediate credit banks. The Federal Government through emergency appropriations, and the Red Cross, also assisted in relieving the credit stringency of the areas most severely affected by drought. The demand for production credit in 1931 was moderated by decreased purchases of fertilizer, but in some of the 1930 drought areas this influence was overshadowed by exceptionally large purchases of food and feed supplies. The abundant supplies of home-grown food and feed, produced in 1931, have materially reduced the need for credits with which to purchase supplemental supplies. Despite its restricted volume, therefore, the supply of production credit available from existing agencies is capable of satisfying a large part of the demand for such credits.

The yield in 1931 of 198 pounds per acre, as forecast on November 1, is one of the largest on record. It follows a series of four years during which yields were close to average. In two of these years, 1929 and 1930, yields were reduced by drought; in the other two years, 1927 and 1928, they were reduced by weevil damage.

Weather conditions in 1931 were unusually favorable for growing and developing the crop. The initial infestation of weevil in 1931 was comparatively small, but with usual weather conditions there would have been a sufficient number to do much greater damage than occurred. This was prevented by hot, dry weather at intervals during the spring and summer, so that the damage to the crop, although greater than in 1930, was less than average. Weevil infestation is much more widespread than it was a year ago and apparently there is a larger number to enter hibernation in the fall of 1931 than was true in the fall of 1930.

Yields in the Eastern States are influenced by the quantities of fertilizer used. Following years of reduced income, expenditures for fertilizers are lowered. The quantity used in 1931 was much below that of recent years because of lowered income from the 1930 crop. In spite of this, high yields were secured in 1931. Weather conditions were such as to promote a high utilization of plant food in the soil. With even lower prices for cotton lint and cottonseed than in 1930, growers have a greatly reduced income from which to purchase fertilizers for the 1932 crop. The increased quantities of cottonseed available for use as fertilizer can only partially offset these decreases.

On the basis of available information it appears that production in the major foreign producing countries will total around 600,000 bales of 478 pounds less in 1931-32 than in 1930-31. A large part of this reduction can be attributed to low cotton prices.

Reports differ regarding production in India but the Indian crop of 1930 was officially estimated at 6 per cent or 256,000 bales of 478 pounds below that of 1929 and reported ginnings showed a similar decline. Acreage planted to October 1 was 4 per cent below the acreage to that date last year. Crop conditions generally seem about the same as last year, but ginning reports

from Punjab indicate lower yields for that Province. The carry-over of Indian cotton on August 1, 1931, so far as reported, was the lowest since 1927. The discrepancies between crop reports and the quantity of cotton actually appearing suggest that stocks in the interior of India may also be low. It seems likely that the 1931-32 supply of Indian cotton will be the smallest since 1926-27.

Cotton production in the important commercial areas of China is estimated to have been reduced by 20 per cent or 450,000 bales of 478 pounds, according to Agricultural Commissioner Dawson at Shanghai. A reduced acreage accounts for part of this reduction but flood damage was the outstanding cause. Stocks of native cotton are reported to be light.

In Russia, cotton production nearly ceased in 1921, but since then it has been increasing because of active efforts by the Government. The 1929 crop of 1,310,600 bales of 478 pounds, however, was still below the 1915 peak of 1,512,000 bales. In 1930, acreage was reported to have been increased 63 per cent, estimates of the crop were as high as 2,050,000 bales, and sales of Russian cotton on European markets seemed to indicate that the crop had been large. But other information points to a crop of 1,850,000 bales, and a recent report states that the 1930 Russian crop amounted to only 1,600,000 bales. This year the acreage is said to have been increased 50 per cent again and a report has been circulated that production has increased 80 per cent over 1930. Experience during the last few years leads to the conclusion that the actual increase in 1931 is materially less than now claimed.

The Egyptian cotton crop of 1931 is forecast at 1,329,000 bales of 478 pounds, a reduction of 332,000 bales or 20 per cent from the 1930 crop. Acreage was reduced 19 per cent and a water shortage affected the crop in some sections. The carry-over has been increased to around 1,350,000 bales. Because of the great increase in the carry-over, the total supply of Egyptian cotton for 1931-32 appears to be about the same as that of 1930-31, which was the largest on record.

Owing to better yields than in 1930 the Brazilian and Mexican crops for 1931 are forecast above those of 1930 but acreage in Mexico is reported to have been reduced 17 per cent. Crop damage in Anglo-Egyptian Sudan due to insect pests and plant diseases, and low incomes on the capital invested, constitute serious problems facing the cotton-growing project in that country.

World-mill consumption of all cottons during 1930-31 fell to 22,500,000 running bales, 2,700,000 bales lower than in 1929-30, and 3,400,000 bales lower than in 1928-29, according to reports of the International Federation of Cotton Spinners. The decline in consumption during the last two years is a result of the world-wide depression, and occurred despite drastic reductions in cotton prices. World consumption of American cotton in 1930-31 amounted to 10,900,000 bales, 2,100,000 bales less than in 1929-30, and 4,200,000 bales less than in 1928-29, and was the lowest since the depression year of 1920-21. World consumption of foreign cottons in 1930-31 amounted to 11,600,000 running bales (a decrease of 600,000 bales from its peak of 1929-30, but an increase of 800,000 bales over 1928-29) and was the second highest total on record. The relative gain in consumption of foreign cottons during recent years reflects the severe competition that these cottons have offered in world markets, the greater severity of depressions in countries that consume American cotton mostly, and to some extent, a turning of mills to cheaper cottons in order to meet price competition at the expense of quality.

Cotton consumption is restricted in years of depression and is expanded in years of business recovery. In fact it tends to decline and to recover to a greater degree and more quickly than does the average rate of industrial activity. In the depression year of 1920-21 world consumption fell 3,100,000 running bales and in 1921-22 it increased 3,600,000 bales. Not only did the reduction occur in the consumption of American cotton, but because of the increasing production abroad at that period, the consumption of foreign cottons increased 200,000 bales in the depression year of 1920-21; and 800,000 bales of the subsequent increase was in the consumption of foreign cottons. Low prices are undoubtedly an important contributing factor to such increases. Low prices were the primary cause of a 2,000,000-bale increase in the world consumption of American cotton in 1926-27. In that year, also, prices of American cotton declined relative to prices of foreign cottons and a total of 600,000 bales of the increase in the consumption of American cotton was at the expense of foreign-grown cottons.

Comparing recent developments with earlier experiences it is observed that the period of decline has been longer in this depression than in the 1920-21 depression and the decline in the consumption of all cotton during the last two years has been only a little greater than the decline from 1919-20 to 1920-21, but the decline in the consumption of American cotton has been much greater. From the standpoint of competition between growths it is significant that during the last year consumption of foreign cottons declined, whereas during the earlier depression there was no reduction in the consumption of foreign cottons as a group. Although the consumption of foreign cotton in 1930-31 was more than 4,000,000 running bales greater than in 1920-21, the decline for the year was as great as that of 1926-27. The relative consumption of American and foreign cottons depends to a large degree upon their relative prices. When American cotton is low in price compared with other cottons, proportionately large quantities of it are consumed. It is therefore significant that in November, 1931, the price margin of American over Indian cotton is the smallest since 1926 and that American cotton has also declined in price relative to other growths.

In the United States, cotton consumption fell sharply as the depression developed in the latter part of 1929 and continued downward until the beginning of the 1930-31 season. Consumption of all cottons in the United States for 1930-31 amounted to 5,271,000 bales compared with 6,106,000 bales in 1929-30 and 7,091,000 bales in 1928-29, according to the Census Bureau. In the winter and spring of 1931 consumption increased materially to a level not far below the average rate for 1929-30, and this level was rather well maintained through September of 1931 despite further declines in general industrial activity. Production of cotton cloth was curtailed as consumer demand fell, so that surplus stocks of goods have been avoided and stocks held by reporting mills have been reduced to a low level. The reduction in stocks of goods held by mills was probably equivalent to as much as 300,000 bales of cotton.

Exports from the United States amounted to 6,760,000 bales in 1930-31 and 6,690,000 in 1929-30, compared with 8,044,000 bales in 1928-29.

In Great Britain the depression reduced consumer demand and there has also been a severe loss in export trade in cotton goods. Exports of cotton piece goods fell from a monthly average of nearly 350,000,000 square yards in 1927 to less than 150,000,000 in 1930-31. As a result the consumption of American cotton fell to the lowest level in many years, amounting to only 991,000 bales in 1930-31 compared with 1,474,000 bales in 1929-30 and 1,910,000 bales in 1928-29, according to reports of the International Federation of Cotton Spinners. There were some evidences of an increase in consumption in Great Britain before the 1930-31 season closed and since that country went off the gold standard British mills have been able to compete in export markets more effectively against the mills of those countries that are still on a gold standard. This advantage, and increased sales to China which are partly due to this factor, have caused increased operations among Great Britain's cotton textile mills. However, the boycott against foreign goods and the increased tariff rates of India, accounted for about 60 per cent of Great Britain's loss in exports of cotton piece goods in 1930-31.

Consumption of cotton was also lower on the Continent of Europe during the year. In central Europe the decline of the previous two years was continued and in Germany the consumption of American cotton fell 200,000 bales. A similar reduction occurred in Italy. Cotton consumption has been remarkably stable in France ever since 1921 and for 1930-31 it showed only a slight decline, but the decline during the half year ended July 31, 1931, was significant and reflected the depression that recently developed in that country. In some of the European countries there were indications that consumption had either stopped declining, or had begun to increase by the beginning of the 1931-32 season. Since unemployment in Germany was 30 per cent greater in September than it was a year ago, consumer buying power in that country has been further reduced. Depressions and fiscal uncertainties are also hampering trade in several other consuming countries.

Japan consumed 400,000 bales less cotton during 1930-31 than during 1929-30, according to reports of the International Federation of Cotton Spinners. The consumption of American and Indian cottons fell about 160,000 and 200,000 running bales respectively. The remainder of the decrease was in Chinese cotton. As Japanese exports of cotton goods fell and the depression developed in the country late in 1929-30, cotton consumption was curtailed

sharply, but subsequently there was a partial recovery. During recent months Japan has greatly increased its takings of American cotton, largely because of the low level of prices and because the margin of American over Indian cotton became the lowest since 1926. Up to the end of October the decline in the exchange value of the rupee had not offset this narrowing in the price margin.

Chinese mill consumption was slightly larger during 1930-31 than during 1929-30. A reduction of 90,000 bales in the mill consumption of native cotton was more than made up by increases of 70,000 bales in the consumption of American cotton and 60,000 bales in the consumption of Indian cotton. This year the Chinese cotton crop in commercial areas appears to be much below that of 1930 and cotton exports from the United States to China up to the end of October have been high. Chinese mills are reported to be manufacturing higher-count yarns which are made largely from American cotton and this was one of the important factors resulting in the record consumption of 362,000 bales of American cotton in 1930-31.

The marked decline in cotton prices has put cotton in a strong competitive position among textile fibers. For low-order uses the competition is most keen between cotton and jute. The production of jute this year is reported to be very low and jute prices have not declined so much as cotton prices during the last year. Normally, prices of jute and jute products are much below those of competing cottons and cotton goods and in most cases jute prices are yet somewhat lower, but there is evidence of increasing use of materials from short, low-grade cotton in the place of jute goods in the manufacture of baggings and sacks, and for similar purposes.

Cotton prices in early October, 1931, were the lowest since 1898. A number of developments this October emphasized the unfavorable aspects of the demand situation and made the record supply especially depressing. The general price deflation associated with the present world depression has also had a significant effect on cotton prices. Cotton prices tend to fall more in periods of decline and to rise more in periods of recovery than does the general commodity price level. During the last two years cotton prices have fallen more than twice as much as has the index of all commodity prices. The decline in cotton prices has amounted to 42 per cent during the last year and 70 per cent during the last two years. In contrast, the decline in the general commodity price level has been 17 per cent during the last year and 29 per cent during the last two years. By the middle of October the index of all commodity prices was practically at the 1910-1914 average, agricultural prices were 32 per cent below that average, but cotton prices were 57 per cent below their 1910-1914 average. The general commodity price level in the United States has been rather stable since early June, but no sustained rise had occurred either in the United States or, in terms of American dollars, in foreign countries, up to the latter part of October.

The decline in prices during the last three years has been greater for the shorter than for the longer staple cotton. Middling cotton, with a staple length of thirteen-sixteenths inch, sold in central markets at discounts that averaged \$4.75 per bale or 10 per cent below the prices of $\frac{7}{8}$ -inch cotton during the season of 1930-31; in 1929-30 and in 1928-29 the discounts averaged \$5.40 and \$3.35 per bale respectively, or 7 and 4 per cent respectively, below the price of $\frac{7}{8}$ -inch cotton. Premiums for Middling $\frac{11}{16}$ -inch to $1\frac{1}{2}$ -inches inclusive, at Memphis, when expressed in points per pound, averaged somewhat lower during the season of 1930-31 than during the seasons of 1929-30 and 1928-29; but when expressed in percentages of the price of $\frac{7}{8}$ -inch cotton, the premiums for each of the longer staple lengths show significant increases in 1930-31 over the premiums paid during the seasons of 1929-30 and 1928-29. The premiums for the longer staple cotton, expressed as percentages of the price of $\frac{7}{8}$ -inch cotton, increased during the season of 1930-31, and during August and September of 1931 were greater than at any time during the last eight years.

The domestic supply of American upland cotton in the United States, with staple lengths of thirteen-sixteenths inch and shorter and $1\frac{1}{8}$ inches and longer, decreased, whereas the supply of staple lengths $\frac{7}{8}$ to $1\frac{3}{4}$ inches inclusive increased from 1929-30 to 1930-31. The carry-over of American upland cotton in the United States on August 1, 1930, was greater than on August 1, 1929, for each staple length except $1\frac{1}{4}$ inches and longer. Production in 1930 was less for staple lengths of seven-eighths inch and shorter and $1\frac{1}{8}$ inches and longer,

and was greater for every other staple length than in 1929. The resulting domestic supply of cotton, with staple lengths of thirteen-sixteenths inch and shorter, in 1930-31 was 26 per cent less than in 1929-30 but was 6 per cent greater than in 1928-29. The supply of cotton with staple lengths of $\frac{7}{8}$ to $1\frac{1}{2}$ inches inclusive in 1930-31 was 18 per cent greater than in 1929-30 and 10 per cent greater than in 1928-29. The supply of cotton with staple lengths of $1\frac{1}{8}$ inches and longer, in 1930-31, was 14 per cent less than in 1929-30, and 36 per cent less than in 1928-29.

The disappearance of the shorter and longer staple lengths decreased, whereas the disappearance of the medium staple lengths increased from 1929-30 to 1930-31. The disappearance of cotton with staple lengths of seven-eighths inch and shorter, in 1930-31, was less than a year earlier, and was also less than the 1930 production of this length of staple. The disappearance of cotton with staple lengths of $1\frac{1}{8}$ to $1\frac{1}{2}$ inches, in 1930-31, was greater than the year before, but was less than the 1930 production of this length of staple. The disappearance of cotton with staple lengths of $1\frac{1}{8}$ inches and longer, in 1930-31, was less than during the previous year, but was greater than the 1930 production of this length of staple.

The carry-over of cotton of each staple length, except $1\frac{1}{8}$ inches and longer, was greater on August 1, 1931, than on August 1, 1930. A preliminary report on the grade and staple length of cotton ginned in the United States prior to October 1, 1931, shows that the proportion of cotton with staple lengths shorter than seven-eighths inch was considerably less, and the proportions of the longer staple lengths, except $1\frac{1}{8}$ inches, were greater than for the corresponding period in 1930.

The situation with respect to long-staple ($1\frac{1}{8}$ inches or longer) cotton in the United States, as indicated above, is somewhat different from that for short-staple cotton. Production of long-staple American upland cotton in 1930 was reduced considerably by the drought. Imports of Egyptian and Peruvian cotton during 1930-31 decreased to approximately 10 per cent of average annual imports of these growths during the preceding five years. The decrease in these imports may be attributed, in large part, to the depression, to the tariff on long-staple cotton, and to heavy imports immediately before the enactment of the tariff bill, which meant large stocks of these cottons in this country at the beginning of 1930-31. The decrease in production of long-staple upland cotton from 1929-30 to 1930-31 was about 35 per cent as compared with a decrease of approximately 12 per cent in the disappearance of this cotton. Likewise, the decrease in imports of Egyptian and Peruvian cotton was about 90 per cent as compared with the decrease of only 50 per cent in the consumption of these growths in the United States. Consequently, the carry-over of long-staple upland, Egyptian, and Peruvian cotton in the United States on August 1, 1931, was considerably less than on August 1, 1930. Current stocks of Egyptian cotton in the United States, however, are only slightly less than the average for this date during the five years 1925-26 to 1929-30. Premiums on long-staple cotton declined only slightly during 1930-31 if expressed in points per pound, and increased considerably if expressed as a percentage of the price of $\frac{7}{8}$ -inch cotton.

The price of Egyptian uppers in New England from August, 1928, to May, 1930, averaged about 2 cents higher than the price of American upland $1\frac{1}{8}$ inches. From May, 1930, to October, 1931, the price of American upland $1\frac{1}{8}$ inches declined about 53 per cent and the price of Egyptian uppers declined only 21 per cent. The New England price of Egyptian uppers from September, 1930, to October, 1931, averaged approximately 8 cents per pound higher than the price of American upland $1\frac{1}{8}$ inches.

The price of Egyptian uppers in New England averaged 0.53 cent above the price in Liverpool from August, 1925, to May, 1930. After May, 1930, the Liverpool price declined much more rapidly than the New England price, the decline from May, 1930, to October, 1931, being 57 per cent in Liverpool as compared with 21 per cent in New England. Since October, 1930, the price of Egyptian uppers has ranged from about 7 to 9 cents higher in New England than in Liverpool. It is not clear, however, to what degree these price relationships may be attributed to depression, to adjustments to the tariff, or to other factors peculiar to this period.

Under stimulus of high prices, the production of Pima cotton, which in 1918 was 36,187 bales, increased to 92,561 bales in 1920, but thereafter declined and reached a low point of 4,319 bales in 1924. After 1924, production again

increased and for the five years 1925-26 to 1929-30 it averaged about 24,000 bales annually. Acreage in Arizona was about the same in 1929 as in 1920, but much of it was given over meantime to shorter staple upland varieties. Annual consumption of Sakellaridis in the United States during the 5-year period 1925-26 to 1929-30 probably averaged about 66,000 bales, but declined to about 31,600 bales in 1930-31 if the ratio of Sakellaridis to total Egyptian cotton consumption remained the same as during the previous five years. The price of Pima was continuously above, and averaged about 6 cents higher, than the price of Sakellaridis in New England during the 5-year period 1925-26 to 1929-30. From June 13, 1930, to October 23, 1931, the price of Pima has averaged about 1 cent per pound higher than the price of Sakellaridis, but the relationship between these prices has been very irregular. A degree of independence as between these prices, however, is not unusual.

The current price of Egyptian Sakellaridis is approximately 9 cents higher in New England than in Liverpool; and the New England prices of Sakellaridis and Pima are about equal.

The 1931 cotton crop was produced with an unusually low cash expenditure, probably the lowest in more than a decade. The amount of credit advanced was smaller than usual. Commercial fertilizer applied to cotton cost growers about 20 per cent less per ton than in 1930 and the quantity used on the entire crop was estimated to be about 40 per cent less than was applied on the 1930 crop. The total cash outlay for commercial fertilizer was estimated to be less than 50 per cent of the yearly outlay during each of the three preceding years and lower than for any year of the last decade. Labor for growing the 1931 crop was plentiful in supply and wage rates in many sections approached pre-war levels. Labor supplies for picking are generally reported to be ample and picking rates in many sections are lower than for any other year of the twentieth century. Ginning costs are also reduced as compared with recent years. Expenditures for food and feed for growing the 1931 cotton crop were increased in areas that suffered from drought in 1930, but these increases were not sufficient to counterbalance the other reductions. Because of the high yields the cash costs per pound of cotton were even further reduced.

COTTONSEED

Reduced demand coupled with continued large supplies of cottonseed products and increasing supplies of certain competing commodities have lowered prices of this group. The world commercial output of some of the crops that compete with cottonseed has been reduced, but so far these responses have not offset the reduction in demand. The carry-over of cottonseed oil has declined in each of the last two years but is still large. Import of oils and oilseeds into the United States in 1930 were below the high point reached in 1929, but this has been partly offset by lower exports of vegetable and animal fats and oils. The large stocks of cottonseed oil and competing oils and large crops of cottonseed and livestock feeds are depressing factors on cottonseed prices. More than half the total quantity of vegetable oils used in the United States is derived from cottonseed and most of the supply for any year comes from seed of current production. The carry-over of cottonseed as such is unimportant.

The decline in price paid growers for cottonseed has amounted to 63 per cent in the last year and by the middle of September, 1931, prices were 57 per cent below the September, 1910-1914, average. Except for a more pronounced seasonal tendency in the trend of cottonseed prices, they usually vary to a large extent with prices of cotton lint. This similarity of price trends reflects the corresponding variations in production and marketings and the influences of those among the general demand and speculative conditions that affect both products. However, these prices are at times widely divergent as in the fall of 1930 when cottonseed prices were 16 per cent above the pre-war level and cotton lint prices were 19 per cent below the pre-war level. At that time cotton lint prices were already low because of the world depression and large supplies of cotton whereas cottonseed products faced less-than-usual competition from other concentrate feeds and from lard.

The market value of cottonseed is partly dependent upon the supply and demand for the commodities that compete with the products of cottonseed. The chief competitors of cottonseed oil are hog lard, olive, peanut, coconut, palm kernel, sesame, sunflower, corn, and soybean oils. Cottonseed cake and meal compete with other concentrated cattle feed such as linseed meal, soybean

meal, gluten feed, etc. Cotton linters compete chiefly with low grades of cotton, cotton wastes, and wood pulp. Hulls compete with roughage feeds.

The total annual disappearance of cottonseed oil in the United States has increased only slightly during recent years. On the other hand cottonseed oil has been meeting increasing competition from other vegetable oils, particularly coconut oil. Of the total domestic consumption of oils derived from cottonseed, coconut, corn, edible olive, peanut, and soybeans, cottonseed oil constituted 68 per cent in 1927 and by 1930 had declined to 63 per cent. Cottonseed, therefore, continues to be the outstanding source of these vegetable oils. Of the competitive products it is reported that low prices have caused some decrease in the production of soybeans in Manchuria and in the world output of copra.

Stocks of cottonseed oil as of June 30 rose from 207,000,000 pounds in 1926 to 494,000,000 pounds in 1927. In 1930 they were 416,000,000 pounds and by 1931 they had fallen to 362,000,000 pounds. Stocks on hand on June 30, 1931, of the principal edible oils that compete with cottonseed oil had increased 46 per cent above the carry-over on June 30, 1927. This increase was caused chiefly by imported materials such as coconut oil which increased from 123,979,000 pounds to 222,162,000 pounds, or by 79 per cent; sesame and sunflower oils which increased from nominal quantities to 26,928,000 pounds; palm-kernel oil which increased from 1,698,000 pounds to 13,671,000 pounds, or 704 per cent; and peanut oil which increased from 2,456,000 to 10,594,000 pounds, or by 331 per cent, despite the increase in domestic production of peanut oil of only 2½ per cent. The combined stocks of cottonseed, peanut, soybean, olive, coconut, and corn oils on June 30, 1930, constituted 26 per cent of the 1930 annual rate of consumption. The combined stocks of 15 vegetable fats and oils increased 25,540,000 pounds, or 4 per cent, during the year ended June 30, 1931, and stocks of animal fats and oils increased 3,179,000 pounds, or 2 per cent. Stocks of crude and refined cottonseed oil fell 53,544,000 pounds, or 10 per cent, to the lowest level since 1926. Although present stocks of vegetable oils are large, next year's production of cottonseed will be the outstanding supply factor for 1932-33. This, of course, will be affected by the acreage and yields of cotton in 1932.

Between 76 and 80 per cent of the cottonseed produced annually are crushed in cottonseed-oil mills. The farm value of cottonseed sold to the oil mills has varied from 11½ to 15.4 per cent of the farm value of the lint cotton produced during the last four years. Owing to the relatively higher price of seed than of lint in 1930 the value of the cottonseed sold that year was 15.4 per cent of the value of the lint produced in comparison with 12.9 per cent in 1929. Approximately 10 per cent of the seed produced are used for planting purposes of which the bulk is home grown, purebred varieties constituting a comparatively small percentage of the total quantity planted. Approximately 12 per cent of the cottonseed produced remains on farms where it is either fed, composted, or wasted.

The price paid for different lots of cottonseed varies because of the differences in the composition of the seed; and, therefore, in the quantity and quality of oil, cake, meal, linters, and hulls obtainable. Quotations for cottonseed are made on Grade 100 and a basic analysis of 18.5 per cent oil, 3.5 per cent ammonia and not over 1.8 per cent of free fatty acids in the oil. From seed so analyzing, the following quantities of prime products are obtainable per ton of seed: 313 pounds of oil; 822 pounds of 41 per cent protein meal, 100 pounds of linters, and 665 pounds of hulls, allowing 100 pounds for loss, chiefly because of moisture.

The composition of cottonseed varies widely owing to variety and cultural and seasonal conditions. Based on the analyses of more than 1,000,000 tons of cottonseed produced in the United States during 1930, the total oil content of cottonseed varied from 151 to 444 pounds per ton and the obtainable 41 per cent protein meal from 665 to 1,297 pounds.

The grade of cottonseed is the result obtained by multiplying a quantity index by a quality index. The price for a given lot of cottonseed is determined by using the grade as a percentage of the current quotation for seed of Grade 100.

The quantity index is found by the formula: Four times the percentage of oil, plus six times the percentage of ammonia, plus 5, except for seed containing less than 17 per cent of oil, in which cases the formula for the quantity index is: Five times the percentage of oil, plus six times the percentage of ammonia, minus 12.

The quality index of cottonseed containing not to exceed 1.8 per cent of free fatty acids in the oil, is 100 per cent. This index is reduced by one-half of a per cent for each one-tenth of a per cent of free fatty acids above 1.8 per cent. The lowest quality index permissible, however, is 50 per cent of perfection.

Owing to faulty development of the seed, high moisture and trash content, improper handling, and storage, etc., 15 per cent of all the cottonseed sold to the oil mills in 1930 had deteriorated previous to sale. The average quality index of this deteriorated cottonseed was 88 per cent. Apparently poorly developed cottonseed deteriorates more rapidly than does well-developed seed, since approximately 75 per cent of all cases of deterioration was found in seed with a quantity index less than 100.

Cottonseed produced in the United States in 1930 averaged 19.75 per cent protein or 3.16 per cent nitrogen so that a ton of cottonseed contains 395 pounds of protein or 63.2 pounds of nitrogen which is the same quantity of protein or nitrogen as is contained in 963 pounds of cottonseed meal of 41 per cent protein. A ton of such cottonseed meal, therefore, contains more than twice as much protein or nitrogen as a ton of average cottonseed. In addition the meal also contains more than double the quantity of phosphoric acid and potash besides being in condition for more economic use. When composted, cottonseed loses nitrogen.

TOBACCO

The marketing position of flue-cured tobacco at present (November, 1931) is characterized by supplies about 5 per cent below those of a year ago, declining domestic consumption, reduced foreign takings, and low prices. Among the factors of greatest weakness is the curtailed buying for export, in consequence of which the grades normally bought for foreign account show the greatest disparity in price compared with 1930 and previous years. At the same time domestic grades show considerable reductions.

Prices to growers for flue-cured tobacco received up to October 1 averaged about 20 per cent below the low prices for the same period in 1930, in spite of the fact that the total supply of flue-cured in the United States is about 5 per cent less than that of 1930. The decline is much greater than 20 per cent, however, if allowance is made for tobacco sold direct to dealers at low prices to avoid warehouse charges. It is evident that the fundamental factor in this decline is the slackened rate of tobacco consumption in this country and abroad.

Although average prices for July, August, and September, 1931, as compared with those for the same period in 1930, apparently declined no more than the general price level declined, it must be recalled that tobacco prices in 1930 were distinctly unfavorable to growers. The index number of all commodities for July, August, and September, 1931, was only 30 per cent below the 5-year average 1925 to 1929, whereas the price of flue-cured tobacco during these months was 48 per cent below the 5-year average. The decline in flue-cured prices also has been slightly greater than the decline in the index of all farm products during this period. It seems doubtful, however, if even these comparisons adequately reflect the severity of present conditions. Reports from farmers indicate that considerable tobacco is being withheld from the market since it will not bring selling charges. To the extent that this is true, average prices now being reported are higher than they would be if all grades of tobacco were fully represented in the averages.

The total supply of flue-cured tobacco in the United States is estimated at 1,371,000,000 pounds. This is based upon the October 1 estimate of production, 694,200,000 pounds, and the July 1 stocks reported in the hands of dealers and manufacturers, 676,800,000 pounds. The estimated 1931 production is about 20 per cent less than the 1930 crop but the stocks are 13 per cent greater. This is the second-largest supply of flue-cured tobacco on record; it is about 3 per cent larger than the 1929-30 supply but 5 per cent smaller than the large 1930-31 supply.

On July 1, 1930, the record supply of 1,459,100,000 pounds marked the culmination of a period of rapid expansion in production. During the ensuing 12 months 782,300,000 pounds were consumed in manufacture or exported, being the high record to date in a long period of expanding disappearance of flue-cured tobacco.

Approximately one-third of the production of flue-cured tobacco is consumed in this country and the rest is exported. Consumption of tobacco products

both at home and abroad has been adversely affected by the depression, and other factors have further slowed up the foreign market.

The most important domestic outlet for flue-cured tobacco is the cigarette trade. This industry uses annually large quantities of flue-cured and burley tobacco, as well as relatively small quantities of Maryland and oriental leaf. These types of tobacco are used also in the manufacture of granulated smoking tobacco for hand-rolled cigarettes, and in the manufacture of pipe and chewing tobacco. For granulating purposes the flue-cured types probably predominate, whereas burley is probably the most important ingredient in pipe and chewing tobacco.

Cigarette consumption, as indicated by the sale of internal-revenue stamps, showed an average annual increase of about 11 per cent during the years from 1920 to 1929. The amount of increase from year to year was not uniform; it varied closely with the rate of industrial activity. Consumption for 1930 was only about one-half per cent over 1929. In the first half of 1931 it was about the same as in the first half of 1930, but an actual decline began in July, following an increase in the price of cigarettes. Cigarette-stamp sales for July, August, and September were 8.3 per cent less in 1931 than in 1930.

Over a considerable period of years a downward trend in the consumption of "manufactured" tobacco has been in evidence. Sales of chewing and smoking tobacco combined have decreased consistently as indicated by the monthly figures. Beginning in August, 1931, however, an increase has been shown in comparison with 1930. Although consumption figures can not be separated accurately as between chewing and smoking tobacco (forms which use quite different grades of leaf), there seems little doubt that the consumption of chewing tobacco still is declining. On the other hand, there is every indication that the manufacture of smoking tobacco used in pipes and cigarettes is increasing. Apparently the pinch of hard times, the heavy and increasing taxes to which cigarettes are subject, and the increased prices of leading brands of cigarettes in the face of declining price levels and decreasing costs of raw materials, have caused some shift from manufactured cigarettes to those rolled by hand. This movement thus far, however, has served only as a partial offset to declines in cigarette manufacture rather than as an additional outlet for flue-cured or burley tobacco. It should be borne in mind, also, that granulated tobacco and most smoking mixtures can be made from lower-priced grades of leaf than can those that are used ordinarily for manufactured cigarettes.

Since roughly two-thirds of the annual production of flue-cured tobacco enters foreign trade, it is evident that any conditions that affect exports are of vital importance to the growers. Exports for the year ended June 30, 1931, were 432,735,000 pounds, slightly larger than the previous high record established in 1929-30. For July, August, and September, 1931, the exports have been somewhat smaller than usual, the total of 58,240,000 pounds being 29 per cent less than for the same months in 1930 and 10 per cent less than the 5-year average, 1925-1929, for this period. This decline may be due in part to larger foreign stocks, built up from the heavy shipments of earlier months, but to a larger extent it appears to be due to other causes.

Buyers for export on the flue-cured markets this season have been less active than for many years past. This undoubtedly is an important reason why price declines have been greater in the grades and qualities normally going into export than in those used for domestic purposes, particularly cigarettes. These reductions in foreign buying appear to be due to declining consumption resulting from industrial unemployment and high prices of tobacco products, to unfavorable exchange rates, to high import duties, and to increased competition from foreign-grown leaf.

In the United Kingdom, where normally about 45 per cent of our flue-cured exports are utilized, manufacturing plants are reported to be using from 5 to 10 per cent smaller quantities in 1931 than in 1930. This decrease apparently has been due to a decline in British cigarette exports, which for the first nine months of 1931 were 33 per cent smaller than for the corresponding period of 1930. Domestic consumption in the United Kingdom appears to be slightly larger in 1931 than in 1930. During the last few years approximately 20 per cent of the flue-cured tobacco imported from the United States has been reexported in the form of manufactured cigarettes. The recent difficulties in British finance which have resulted in a depreciation of the

pound sterling and an increase in the import duty on tobacco also appear to be reacting unfavorably upon the importation of flue-cured leaf from the United States.

On the Continent of Europe, where from 10 to 12 per cent of American flue-cured exports are used, the consumption of tobacco products in 1931 is reported to be less than in 1930. In the Netherlands reduced exports have restricted the outlets for flue-cured leaf, while in Germany certain tax regulations have acted unfavorably upon the consumption of flue-cured products. These regulations were removed on October 13, 1931. France, the other important user of flue-cured tobacco on the Continent, has issued no reports of tobacco consumption for 1931. Other European countries, including Spain, Denmark, Norway, and Sweden, have reported a smaller consumption of tobacco products in 1931 than in 1930.

Exports to China, which in recent years have represented from 25 to 30 per cent of the total exports, continue to meet increased competition from the expansion of Chinese production. The 1931 crop is reported to be 15 to 20 per cent larger than that of 1930, and apparently it is sufficient to provide cigarette manufacturers with from one-fourth to one-third their total requirements. This, together with the depreciated condition of Chinese currency, helps to explain why purchases of American flue-cured tobacco by China recently have been made at such low prices, in spite of the fact that cigarette factories have continued to show progressively expanding activity.

The present situation as regards Virginia fire-cured tobacco (type 21) is characterized by larger supplies, reduced exports, and lower prices. Sales of this tobacco by farmers during the first two weeks of the season (beginning October 20) averaged 6 cents per pound, compared with 8 cents for the opening month in 1930. The total indicated supply of Virginia fire-cured tobacco on October 1, 1931, was 62,731,000 pounds. This is about 11,500,000 pounds or 22 per cent above the supply at the beginning of the 1930-31 season and 16 per cent higher than for the 1929-30 season, but below the supply of other seasons since 1921-22.

The production in 1931 was estimated on October 1 at 34,128,000 pounds. This is 46 per cent larger than the 1930 crop and appreciably larger than the 1927, 1928, or 1929 crop. As indicated, 1931 acreage of 43,200 acres was only 8 per cent larger than the acreage of 1930. The greatly increased production in 1931 is due to increased yields. Stocks on October 1 were 28,603,000 pounds, which is about 1,000,000 pounds more than the amount on hand October 1, 1930, but less than for other years since 1927.

Exports of Virginia fire-cured tobacco for the first nine months of 1931 were approximately 9,500,000 pounds and were much lower than for the corresponding months of any recent year. Owing largely to declining exports the disappearance of Virginia dark-fired tobacco for the last several years has been at relatively low levels and the indicated 1931 production is approximately 50 per cent larger than the disappearance of either of the two previous seasons, which have totaled 22,600,000 and 26,200,000 pounds, respectively.

TRUCK CROPS

For the first time since 1925, the expansion of acreage of commercial truck crops grown in the United States for fresh market shipment was halted in 1931. Following the successive annual increases of 8, 10, 6, 5, and 7 per cent from 1926 to 1930, the acreage of 22 truck crops grown for shipment (not including potatoes and sweetpotatoes), dropped from a peak of 1,600,000 acres in 1930 to 1,591,000 acres in 1931. The major decreases occurred in acreages of cucumbers, onions, green peas, strawberries, and watermelons. Increases occurred in the acreage of the other more important crops, such as snap beans, cabbage, cantaloupes, and tomatoes.

The acreage of vegetables grown for commercial canning or manufacture showed an 18 per cent reduction, declining from a peak of 1,333,000 acres in 1930 to 1,091,000 acres in 1931. The combined truck-crop acreages grown for shipment and for canning during the last season represent a 7 per cent reduction from that of the 1930 season.

Throughout the 1931 marketing season the low general level of food prices has reduced prices for most shipping vegetables even when market supplies were low. This is particularly true in the Southern States where cost of freight to market is a relatively large part of the market price. Reasonable diversification of

truck crops and production of high-quality produce at lower costs per unit are becoming more important than ever. There appears to be nothing in the truck-crop outlook which would justify any considerable shift from cotton to truck crops in the States that are planning cotton acreage reduction.

ONIONS

The 1931 late commercial onion acreage, according to November 1 estimates, is about 13 per cent smaller than the 1930 acreage and, with the average yield per acre in this group of States materially less than the 1930 yields, production has been estimated to be about 38 per cent below the record 1930 production. In view of the greatly reduced 1931 crop, storage stocks of late onions for the 1931-32 season were 46 per cent less on November 1 than the large stocks of the 1930-31 season on the same date.

The 1931 early Bermuda and Creole onion acreage in California, Louisiana, and Texas differed very little from the 19,600 acres grown in 1930 but was considerably below the large acreages of 1928 and 1929. The yield per acre in 1931 was slightly less than the 1930 yield and the 1931 production was about 2 per cent below that of 1930. Stocks of storage onions, however, were especially heavy at the beginning of the marketing season of the 1931 early crop, and prices to growers in these early-onion States were but little changed from the low level of the previous season. About 24 per cent of the Texas crop was not marketed because of low prices and close culling. According to growers' reports, the intended acreage of early onions for 1932 is 23 per cent above the acreage harvested in 1931.

The 1931 intermediate domestic-onion crop of California, Iowa, Kentucky, New Jersey, Texas, Virginia, and Washington was about 20 per cent larger than the 1930 crop but appreciably less than the large 1929 crop. The 1931 onion acreage (8,220 acres) in these States was only 10 per cent larger than the 1930 acreage and the 20 per cent increase in production was due, in part, to improved yields as compared with the rather low 1930 yields. Prices to growers for the 1931 crop were materially below prices received for the 1929 and 1930 crops, but were slightly improved over the low prices received for the 1928 crop.

CABBAGE

The commercial acreage of late Danish (or storage crop) cabbage in the Northern States is, according to November 1 estimates, 7 per cent less than the 1930 acreage. With a lower yield per acre than last season, the 1931 indicated production is 14 per cent below that of 1930, and is less than either of the small crops of 1928 and 1929. Stocks on hand November 1 were lower than during the last two years.

The new crop season begins with the fall crop in South Carolina and the Norfolk area of Virginia, with marketing mostly from November to February. In the fall of 1929 these two areas raised their production sharply, and prices dropped considerably below those of the two preceding years. In the fall of 1930 South Carolina production was maintained but the Norfolk crop dropped sharply and prices advanced to some extent in both States. Reports indicate that acreage planted in the fall of 1931 is 9 per cent less than the acreage of the previous fall.

Acreage in the early States (California, Florida, Louisiana, and Texas) was increased about 35 per cent to a record of 43,900 acres in 1931 and yields were exceptionally large in Florida and Texas where the greatest acreage increases were made. Prices to growers were the lowest for more than 10 years. The intended 1932 acreage in these early States, according to growers' reports, is 13 per cent smaller than the 1931 acreage but is 10 per cent larger than the average acreage of the previous five years.

In the second early States (Mississippi, Alabama, Georgia, the Carolinas, and eastern Virginia) acreage was reduced slightly in 1931 but very good yields were obtained. Production from the 13,100 acres in this group in 1931 was 7 per cent above the low production of 1930 but 17 per cent below the average production for the five years preceding 1930. Prices to growers were, however, the lowest on record.

Most of the other southern cabbage areas are included in the intermediate shipping group—Arkansas, Kentucky, Tennessee, southwest Virginia, and 10 other competing areas in Northern, Central, and Western States. Very little change was made in the 1931 acreage in this group of States, where plantings have approximated 21,000 acres for the last three seasons. Yields and production were larger than in 1930 but were not exceptional in comparison with the crops from 1926 to 1929. Prices were at an unusually low level.

In practically all of the Southern States, the low general price level in 1931 appears to have been a more dominant influence on cabbage prices than the production or available supply of cabbage at any one time.

TOMATOES

Reports from growers on intentions to plant tomatoes indicate that the commercial fall-crop acreage in Florida and Texas for the 1931-32 season is expected to be reduced about 35 per cent below that of 1930-31. The intended plantings are estimated at 4,400 acres, compared with 6,870 last season; but production from the fall crop is largely dependent upon weather conditions during the winter months. In the 1930-31 season much of the crop intended for early shipment was injured by the cold weather. The early spring crop in south Florida is also subject to extreme weather conditions; because of excessive rainfall and low temperatures, the 6,800 acres harvested last spring were less than half of the early-planting acreage. Total supplies of tomatoes on the markets during the winter months during past seasons have been largely determined by the imports from Mexico, Cuba, and the Bahama Islands. From December until late March or early April, imports from these sources have been in considerably greater quantity than domestic shipments; consequently the condition of the market during this period has been largely determined by the quantity of such imports. With light domestic supplies during the winter and early spring of 1930-31, total imports for the season exceeded the average of the previous five seasons by 5 per cent, although imports were 10 per cent less than during the preceding season of 1929-30.

In other sections of Florida, which begin shipping the latter part of April, the spring acreage was reduced from 19,000 acres in 1930 to 15,900 acres in 1931. Plantings in the lower valley of Texas were increased slightly to 10,300 acres, and in the Imperial Valley of California from 1,000 to 1,600, and total production from the group was about equal to the average of previous seasons. Development of the Florida and Texas crops was retarded by the cool spring, and the active shipping season was delayed until the latter part of May, when heavy shipments were accompanied by very low prices.

Acreage of the second-early crop, marketed during June, was again increased over that of the previous season, amounting to 43,000 acres compared with 37,200 the previous year. Practically all of this increase was in east Texas, where acreage increased from 12,400 acres in 1929 to 25,000 acres in 1931. The Mississippi plantings were also increased slightly to 13,000 acres, but light yields resulted in rather a short crop in that State. Total production for this group, which also includes South Carolina, Louisiana, and Georgia, showed a further increase over the high record of 1930, and prices were again reduced from the low level of the previous year. It appears that, with normal yields, the supply of tomatoes from this acreage in these States is in excess of market requirements.

In the intermediate States, comprising Arkansas, Tennessee, Missouri, Virginia, Maryland, New Jersey, and one county each in Ohio and Illinois, the 1931 crop again proved unsatisfactory. Acreage was again increased over the large plantings of the previous year, amounting to a total of 40,700 acres. Yields were rather light, but total production almost equaled the previous record crop of 1929, and prices were the lowest ever recorded for this group.

EARLY POTATOES

Since the Southern States completed the marketing of their 1931 potato crops, for which they received prices as low or lower than in 1928, the general potato price level has declined materially. In April, 1931, the average price received by producers throughout the United States was 91 cents per bushel compared with \$1.46 a year earlier, but on October 15 it had declined to 46

cents or about half of that of last April and compares with \$1.01 for October last year.

Prices of potatoes during the 1930-1931 season were partly sustained by a light crop of 343,000,000 bushels which followed a similarly light crop in 1929. The present lower level of prices is partly the result of a further curtailment of consumer purchasing power and largely the result of a larger crop this year amounting to 382,000,000 bushels which is 39,000,000 bushels greater than the previous crop and about 17,000,000 bushels above average. The larger supply in 1931 was produced on an acreage which was increased from 3,167,000 acres in 1930 to 3,506,000 acres in 1931. As in 1930 and 1929, yields in 1931 were abnormally low because of drought in the Central and North Central States. For the country as a whole the average yields, during the past three years, have ranged between 105 and 110 bushels per acre compared with a high yield in 1928 of 121 bushels. Apparently average weather conditions in 1931 would have resulted in a yield of over 115 bushels per acre.

In the early-producing sections of the South every State except Florida, Maryland, and Virginia, and the lower valley of Texas increased its acreage in 1931, and every State except Virginia, Maryland, Tennessee, and Oklahoma and the lower valley of Texas produced a larger crop in 1931 than in 1930. The reduced acreage in Florida was more than offset by a record yield. In the lower valley of Texas, and in Virginia, Maryland, and Oklahoma low yields per acre were responsible for the smaller crops. In general, the Southern States enjoyed about average and in some cases record yields in 1931. Prices received for the 1931 crops in the South were generally low. The Florida crop brought about \$1.25 per bushel, the lowest in at least 12 years, compared with about \$1.75 in 1928 and 1929. Prices received in Virginia averaged about 50 cents per bushel compared with about 98 cents in 1930, and 41 cents in 1928 which was the lowest price in at least 12 years. In practically all of the Southern States the trend in prices has been downward whereas the trend in production has been upward. In earlier years, whenever southern growers received prices as unprofitable as those of 1931 and northern potatoes were bringing low prices, they reduced their acreages considerably the following season. Incomplete intentions reports from growers indicate that acreage reductions are being contemplated for 1932.

The producers of early potatoes in the South, who market during March, April, May, and June, face the prospect of greater competition from the carry-over of the 1931 northern crop than they experienced last spring.

The unusually low prices which have prevailed in the northern shipping points tend to restrict shipments and a larger proportion of the larger 1931 late crop is consequently available for marketing after January 1 in competition with the shipments of early southern potatoes during March, April, May, and June of 1932. Shipments from late-producing States through October 31 have amounted to only 59,000 cars compared with 78,000 cars for the corresponding period last year, when the supply was not so large as this year.

The early-potato producers who ship later in the season, during June, July, and August, also face increased competition from such States as Oklahoma, Virginia, Maryland, Missouri, and Kansas in which yields in 1931 were abnormally low. In Kansas the average yield per acre in 1931 was only 128 bushels, compared with 176 bushels in 1930; in Virginia only 137 bushels compared with 146 bushels in 1930 and 170 bushels in 1929; in Missouri only 135 bushels compared with 205 bushels in 1930; and in Oklahoma 85 bushels compared with 128 bushels in 1930. Normal yields in these areas would mean larger crops in competition with the marketings from the second-early States.

SWEETPOTATOES

Farmers in the Cotton Belt planted a large acreage to sweetpotatoes in 1931, as is usual when the price of cotton is low. In most of the Cotton Belt States yields per acre of sweetpotatoes were below average as a result of adverse growing conditions. The crop was moving from the farms in October at the lowest prices for that month in 20 years but, except in the commercial area from Virginia to New Jersey where yields were unusually heavy, the price compared favorably with the prices being received for other farm products. Thus, for the country as a whole, the October price of sweetpotatoes was 83 per cent of the average October price in the five years previous to the World War,

although on that date the prices of farm products as a group averaged only 68 per cent of pre-war prices and the prices of the principal cash crops of the South were decidedly lower.

So large a percentage of the acreage of sweetpotatoes in the Southern States is in fields of less than an acre that no statistics on either acreage or yield per acre can be relied upon implicitly, but preliminary estimates indicate that the area of sweetpotatoes in the United States in 1931 was 871,000 acres, an increase of 20 per cent over the 722,000 acres harvested in 1930. The yield per acre, according to October indications, was also higher, averaging 88.6 bushels compared with the very low average of 86.2 bushels in 1930 and an average of 95.2 bushels during the preceding 10 years. Although the yield per acre this year was apparently only 3 per cent greater than it was last year, production was increased from 62,000,000 bushels to 77,000,000 bushels, or 24 per cent, and the October 15 price declined from \$1.11 to \$0.66 per bushel, or 40 per cent.

Looking ahead, Southern farmers are faced with a need to produce on their own farms an even larger share of the food required by their families than they produced in 1931. In most cases this will mean an acreage of sweetpotatoes large enough to supply family needs even though yields should again be low.

So long as this situation exists Southern farmers who grow sweetpotatoes for sale may find it best to follow a rather cautious production program, giving close attention to reducing production costs.

PEANUTS

The production of peanuts to be harvested for nuts in 1931 exceeds the large production of 1929 by about 8 per cent and is 38 per cent larger than the 1930 production, according to preliminary estimates. The November forecast of production of 1,000,565,000 pounds for 1931 exceeds the average annual production of the 5-year period 1925-1929 inclusive, by almost 205,000,000 pounds, or 26 per cent. The preliminary estimate of 1,341,000 acres for harvest in 1931 exceeds the 1930 harvested acreage by about 23 per cent and the high acreage of 1929 by about 1 per cent. The estimated yield per acre for the 1931 crop is 12 per cent higher than the low yield of 1930 and 2 per cent higher than the average for the period 1925-1929.

Yields slightly below or approximating last year's yields are reported in the leading Southeastern States, but in Virginia and North Carolina and in the Southwestern States yields are materially better than they were last year. In the Southeastern States and in the Southwest sales of this season's crop in October were at the lowest prices on record during the last 30 years and prices of farmers' stock peanuts in Virginia and North Carolina were materially lower than a year ago.

Although preliminary estimates indicate that the 1931 crop of peanuts to be harvested for nuts is 8 per cent greater than the large crop of 1929, the total supply of peanuts available for consumption during the 1931-32 season is probably less than in the 1929-30 season, although somewhat larger than the supply of the 1930-31 season. The 1930 crop was the smallest produced since 1926 and the carry-over of old-crop peanuts at the beginning of the current marketing season is believed to be lower than for any recent year and materially reduced from the large carry-over at the beginning of the 1929-30 marketing season. October cold-storage stocks in Chicago, the principal receiving market, were reported to be about one-third of similar stocks in October for each of the two previous seasons, and are chiefly Spanish-type peanuts.

For the group of States—Virginia, North Carolina, and Tennessee—which produce chiefly Virginia-type nuts, early estimates indicate that both the 1931 acreage and production will be very large. The November figures forecast a production of 429,900,000 pounds. This figure exceeds the 1930 production by about 144,000,000 pounds or 50 per cent, and is larger than the crop of 1929 by about 43,000,000 pounds or 11 per cent. Importations for the current season of oriental peanuts, which are of the Virginia type, have so far been slightly heavier than during the 1929-30 season but otherwise they constitute the smallest quantity imported in more than 20 years. For the 11 months, October, 1930-September, 1931, imports of peanuts were the equivalent of about 14,000,000 pounds of peanuts in the shell. The carry-over of old-crop farmers'-stock Virginia peanuts at the beginning of the current season is reported to be small and mostly of poor quality.

In the Southeastern States (Georgia, Alabama, Florida, South Carolina, and Mississippi), which grow both Runner and Spanish types, preliminary estimates

indicate that 710,000 acres of peanuts will be harvested for nuts. This figure represents an increase of about 24 per cent over the 1930 harvested acreage, and the production in this group of States is estimated to be 21 per cent greater than in 1930. The early pickings of Spanish peanuts are generally reported to be of better-than-average quality largely because of favorable weather conditions during harvest. The supply of old-crop peanuts in the Southeastern States at the beginning of the 1931-32 marketing season was reported to have been very small. Prices for new-crop peanuts during the current marketing season declined steadily until early October. By late October prices had improved slightly, but were still approximately 50 per cent less than the prices which prevailed at the corresponding time last year.

In the Southwestern States of Texas, Oklahoma, Arkansas, and Louisiana, which grow chiefly the Spanish-type nut, the 1931 acreage, according to November 1 forecasts, is 210,000 acres. This represents an increase in acreage over 1930 of about 31 per cent. Yields this year are much higher than last year and the forecast production of 129,430,000 pounds is about 71 per cent greater than the 1930 production. The estimated 1931 production in these Southwestern States is, however, about 4 per cent less than the large crop of 1929. Owing to the relatively small 1930 crop, supplies of old-crop peanuts are reported to have been negligible at the beginning of the current marketing season. Prices for new-crop peanuts on October 27 were reported to be about 40 to 50 per cent less than prices at the same time last year.

PEACHES

Although extremely low prices were received for the large 1931 crop, the peach production situation in the South appears to be on a sound economic basis, because of the moderate rate of planting during recent years. Judging from surveys and other available information the annual plantings of peach trees in commercial orchards in the South during the last four years have averaged about 5 per cent of the number of trees now in commercial orchards. Assuming the average length of life of southern peach trees to be 13 to 15 years, this rate of planting is not sufficient to maintain the present number of trees. The average rate of planting of the last six years does not appear excessive even though the large crop of 1931 did bring very low prices. The fact must be kept in mind that conditions were unusually favorable for heavy production in 1931 and market conditions were unusually unfavorable in 1931.

The 1931 peach crop in 11 Southern States (North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Tennessee, Arkansas, Oklahoma, and Texas) was among the largest on record. It totaled about 23,800,000 bushels which was slightly greater than the large 1928 crop. The extremely heavy production was due to the combination of a number of factors. The weather was favorable for peach production in 1931. There was little, if any, damage from winter freezes or spring frosts. Weather conditions at pollination time and during the growing season were generally good. The small crop in 1930 also placed the trees in condition to produce heavily in 1931, and damage to the peaches from insects and disease was very light. The crop-condition figure for Georgia in 1931 expressed in percentage of a full crop was 91 compared with 58 in 1930 and a 5-year average of 70. The figures for other important southern peach States show similar comparisons. About two-thirds of the southern peach trees are now at an age at which they are capable of bearing heavy crops. This occurrence of such generally favorable conditions of production is unusual.

Although the 1931 production in the South was at a high figure, car-lot shipments from the 11 Southern States of about 23,000 cars were exceeded both in 1926 and 1928. Even including the quantity marketed by truck in 1931, the commercial movement in 1926 and 1928 was apparently greater. Considerable fruit was not shipped in 1931 because of unsatisfactory market conditions. Many cars sold at prices ranging from 45 to 75 cents per bushel f. o. b. shipping point. In the eight years prior to 1931, average farm prices in seven Southern States ranged from 92 cents per bushel in 1926 to \$1.71 in 1923. Under better business conditions in the consuming markets than prevailed in 1931, it has therefore been possible in some years to market larger quantities of southern peaches at higher prices.

Commercial-peach-tree surveys made by the United States Department of Agriculture, in some instances in cooperation with State agencies, in 1929 included five leading Southern States—Georgia, North Carolina, South Carolina,

Tennessee, and Arkansas. A supplementary survey was made in Georgia in 1930. In 1931, 98 per cent of the car-lot peach movement from the South originated in these States. They largely supply the fresh peach markets up until the first part of August.

The survey indicated that in 1929, 18 per cent of the trees in commercial orchards in the five States were under 5 years old; 65 per cent were 5 to 9 years old; 14 per cent were 10 to 14 years old, and 3 per cent were over 14 years. About two-thirds of the trees were near the age of greatest potential productivity. Plantings in 1930 and 1931 in most Southern States have not been large.

Census figures for 10 Southern States (North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Tennessee, Arkansas, and Oklahoma) show that the total number of peach trees in 1930 was 27,488,018 which is only 79 per cent of the total number in these States in 1925. The number of trees listed in the census as nonbearing in 1930 is 21 per cent of the total number of trees in these States.

The 1930 survey showed that in Georgia, which has produced 36 per cent of the crop in 11 Southern States during the last four years, 16 per cent of the trees in commercial orchards were less than 5 years old in the fall of 1930; 60 per cent were from 5 to 9 years; 20 per cent were from 10 to 14 years; and 4 per cent were more than 14 years old. The 1930 census indicates that only 14 per cent of the total peach trees in Georgia were of nonbearing age and that the total number of trees was 62 per cent of the number in 1925. The situation in the leading southern peach State is, therefore, that, more than four-fifths of the trees are of bearing age and the trees not of bearing age are apparently not sufficient to maintain the present number of bearing trees.

About 400,000 trees or more than 4 per cent of the State total have been taken out in Georgia in the last year on account of phony peach disease, old age, or for other reasons. The phony peach disease has apparently been reduced through control work to a point at which its effect on production is very limited. It has been found in most of the other Southern States.

In the important southern Georgia district, where the 1930 survey shows there are about 4,400,000 trees, or slightly less than one-half of the trees in commercial orchards in the State, there is a greater percentage of young nonbearing trees than in other districts of the State. Over 21 per cent of the trees were under 5 years old in the southern district in 1930 as compared with 13 per cent in the central district, and 7 per cent in the northern Georgia district. In southern Georgia the proportion of trees that are in the prime of their bearing life is less than in the other Georgia districts. The trees which were 5 to 9 years old in 1930 in south Georgia were 47 per cent compared with 73 per cent in central Georgia, and 65 per cent in north Georgia.

Some of the early and midseason varieties have been planted rather heavily in south Georgia. Of the trees in commercial orchards under 5 years old in this district in 1930, 22 per cent were Hiley, 21 per cent Early Rose, 15 per cent Uneda, and only 27 per cent Elberta. For the State as a whole, Elberta was 52 per cent. The early varieties from south Georgia are the first peaches to reach the market. Good prices have frequently been received for limited quantities of the earliest varieties but the demand for them is restricted and the markets are easily oversupplied.

In North Carolina, which has produced 13 per cent of the southern crop during the last four years, 79 per cent of the trees in commercial orchards were 5 to 9 years of age in 1929, and only 11 per cent were under 5 years old. In South Carolina, where the production has been a little less than half of that of North Carolina during the last four years, 67 per cent of the trees in commercial orchards were 5 to 9 years old and 25 per cent under 5 years. The 1930 census figures show that in both North Carolina and South Carolina, 19 per cent of the total number of trees were not of bearing age. The total number of trees in North Carolina in 1930 was 80 per cent of the number in 1925 and in South Carolina 99 per cent.

Tennessee has produced about 10 per cent of the southern crop during the last 4-year period, and in this State 75 per cent of the trees in commercial orchards were from 5 to 9 years old and 14 per cent were under 5 years, according to the survey. In Arkansas, where the peaches grown during the last four seasons were about 13 per cent of the crop in 11 Southern States, only 52 per cent of the commercial trees were 5 to 9 years old and 36 per cent were under 5 years in 1929.

In Arkansas a larger percentage of the trees were young than in the other Southern States. According to the survey figures, Arkansas is the only one of the leading peach States in the South in which the annual planting of trees in the five years preceding the survey averaged 7 per cent of trees reported in the survey. In both Tennessee and Arkansas the 1930 census indicates that 25 per cent of the total peach trees were nonbearing and that the total number was slightly lower than in 1925.

For the South as a whole, the Elberta is by far the leading variety; it comprised 59 per cent of the trees reported in the survey. The Hilley was second with 15 per cent and the Early Rose third with 7 per cent. Although the 1931 crop of southern peaches was of generally good quality, many growers are discouraged because of the low prices received and are confronted with difficulties in financing. To date, however, most orchards have been well cared for and are in generally good condition. A general tendency toward better grading and packing is reported.

Peaches from Illinois compete on the markets to some extent with Arkansas and Tennessee peaches, and the crops from Virginia and New Jersey may compete to some extent with the Carolina shipments. Therefore, the situation in Illinois, Virginia, and New Jersey is of interest to southern growers. The 1930 census shows that 26 per cent of the Illinois trees are of nonbearing age; a large percentage of the trees are relatively young, although comparatively few new orchards have been planted in the last two years. In Virginia the census shows that 32 per cent of the trees are of nonbearing age; the total number of trees is about the same as in 1925. A survey in 1930 in cooperation with the New Jersey Department of Agriculture indicated that 9 per cent of the trees in commercial orchards were under 4 years old, 51 per cent were 4 to 9 years old, and 40 per cent were over 9 years. The two leading varieties in New Jersey were Elberta and Belle, representing 41 per cent and 11 per cent respectively of the trees. The total number of trees in New Jersey according to the census was only 74 per cent of the number in 1925.

In the economics of southern peach production competition of various States or districts in time of crop movement and in regard to consuming markets are important considerations. Statistics for the 4-year period from 1927-1930 show that early varieties from south Georgia, on the average, have begun to move about the middle of May. It is, however, not uncommon to have a variation of several weeks in the time of movement from year to year. As an average, by the week beginning June 15, Georgia shipments have amounted to more than 900 cars per week. By the week beginning August 3 shipments have usually fallen to less than 400 cars. For the Carolinas the main shipping season is usually between July 10 and August 15. The Arkansas crop usually moves between July 6 and August 9, whereas the Tennessee movement is on the average a few weeks later, generally between July 20 and August 20.

Georgia peaches are shipped in quantity both to the Middle Atlantic and New England markets and to the Middle West. On the other hand the Carolina shipments go mostly to the Middle Atlantic and New England area. The most important markets for Tennessee peaches are in the Middle West, particularly in Ohio and Michigan. Arkansas ships some peaches to the middle-western markets, but the area west of the Mississippi River, including the smaller cities in the Great Plains area, is the principal consuming territory.

Marketing by motor truck and through roadside stands is increasing in importance in some peach districts; however, the percentage moved by truck was probably less than 10 per cent in Georgia in 1931 and in South Carolina it was about 30 per cent.

CITRUS FRUITS

The combined production of oranges and grapefruit has increased tenfold during the last 40 years and has been increasing at an average rate of about 6 per cent per year during the last 10 years. The total number of trees in orange and grapefruit groves is now twice as large as it was in 1920. Although about 69 per cent of the trees reported by the 1930 census were listed as of "bearing age," many are still too small to produce fruit in paying quantities and only about one-third are 15 years old or older—the age at which they have reached or are approaching full production. Both in Texas and Florida plantings in the winter of 1930-31 showed some decrease from the heavy plantings of 1928. Allowing for the continued plantings in Arizona, the total area set has apparently been approximately 20,000 acres in each of the last two years. Many of these recent plantings have been made in relatively new areas in which

there is little information on which to base estimates of probable production from present groves when their young trees shall have reached 15 or 20 years of age, but production from the groves already in bearing has increased to a point where it exceeds 70,000,000 boxes in a moderately favorable season like that of 1930. As marketing problems have already become troublesome, it would seem best for further plantings to be made with caution and with careful consideration of competitive production and marketing costs. With a record production in 1930 of about 52,000,000 boxes of oranges and 18,000,000 boxes of grapefruit, the seasonal average farm prices fell to an exceptionally low level.

ORANGES

In the country as a whole there are about 535,000 acres of orange groves. About four-fifths of the trees are 5 years old or older or are nominally of bearing age, but only two-fifths are as much as 15 years old.

The Florida available statistics are conflicting, but judging from the records of orange, tangerine, and Satsuma trees in groves and on urban properties, as collected in connection with the fruit-fly eradication work, supplemented by allowances for recent plantings and for the areas not surveyed, the present area in orange trees in Florida is probably somewhere around 265,000 acres. Roughly, one-fifth of the Florida orange trees are less than five years old, three-fifths are 5 to 15 years old and are, therefore, of bearing age but not in full bearing, and one-fifth are at least 15 years old and are approaching full production. The proportion of young trees is apparently sufficient to permit production to continue to increase at an average rate of about 4 per cent per year. Of the 21,500 acres of oranges in Texas, only 30 per cent are 5 years old and a negligible proportion is in full bearing. The California orange groves include about 230,000 acres, of which 26,000 acres, or 11 per cent, are classed as not yet of bearing age. The greater number of the young trees in California are Valencias; their fruits are shipped largely during the months when few oranges are being picked in Florida and Texas. In California the production of Washington Navel oranges, the variety that competes with southeastern oranges, has probably about reached its peak. Arizona has about 6,500 acres of oranges and about 20 per cent are of bearing age and about 10 per cent are approaching the age of full production. Production is also increasing in Louisiana, Alabama, and Mississippi.

During recent years, with the increase in the orange crops, there has been a decided upward trend in exports, which averaged slightly more than 4,000,000 boxes per season from 1928-29 to 1930-31. Most of the increase has gone to the United Kingdom. Exports of oranges have amounted to approximately 8.1 per cent of the commercial crop during the last 18 years, of which Canada has taken a practically constant 7 per cent. Attention should be called to the duty which has been placed on oranges entering Canada. The duty amounts to 35 cents per cubic foot. On a box basis the Canadian Government has been assessing a duty of 75 cents. Oranges imported from Empire countries, however, are on the free list. At present the products of South Africa, Australia, and Jamaica are allowed free entry. Should oranges be exported from these countries in any large quantity, the South African and Australian oranges would compete mainly with California Valencias, and the Jamaican oranges would compete with late Valencias and California and Florida winter oranges.

Oranges are exported to Canada the year around, with December and March the months of heaviest movement. Exports to European countries are mainly made during the summer season, since the large and growing competition from countries in the Mediterranean Basin practically precludes large exports of winter oranges from the United States. The 1931-32 production of winter oranges and mandarins in countries of commercial importance in the Mediterranean Basin is expected to total around 47,000,000 boxes, compared with 45,000,000 boxes estimated to have been harvested in these areas last season. In Spain and Palestine the crop will probably be above the quantity harvested in 1930-31, while in Italy and Algeria the yield is expected to be somewhat less.

GRAPEFRUIT

Grapefruit production has been increasing at an average of nearly 6 per cent per year during the last 10 years, and the proportion of young trees is now much larger than it was 10 years ago. The present area in grapefruit trees in the United States is close to 190,000 acres. Somewhere around 45 per cent of the

trees were less than 5 years old in the summer of 1931, and only about 17 per cent are as much as 15 years old. Florida now has about 93,000 acres in grapefruit trees, of which perhaps a third are as much as 15 years old. The California bearing acreage is reported at 12,000 acres with 3,000 nonbearing. Texas, with an acreage of 70,000, has only 20 per cent of this acreage as much as 5 years old. In Arizona also the bearing acreage is increasing rapidly. That State now has about 14,000 acres of grapefruit, and only about 25 per cent of the trees are of bearing age. Porto Rico reports 6,120 acres with trees over 6 years old; 1,680 acres with trees 2 to 5 years old; 310 acres with trees 1 to 2 years old; and 200 acres with trees 1 year old. Porto Rico has now recovered from the effects of the 1928 hurricane.

Grapefruit consumption in foreign countries is increasing and since the per capita consumption is very low in most countries a steadily increasing foreign demand for American grapefruit may be expected, but not without increased competition from foreign producers. At present, the United States and Porto Rico supply most of the grapefruit consumed abroad, but production and exports in South Africa, the West Indies, Palestine, Brazil, and Argentina are increasing rapidly. In 1926 the United Kingdom imported 93,000 boxes of grapefruit from countries other than the United States and Porto Rico. By 1928 these imports amounted to 164,000 boxes, and in 1930 they exceeded 200,000 boxes.

Exports of grapefruit from the United States during the 4-year period (October to September) 1926-27 to 1929-30 have averaged 790,000 boxes or 7.8 per cent of the total grapefruit crop. Exports during the 1930-31 season just closed were the largest on record, amounting to about 1,370,000 boxes. Most of the exports of United States grapefruit go to the United Kingdom and Canada. During 1930-31 the United Kingdom took almost twice the quantity imported in 1929-30. Some of the United States grapefruit imported into the United Kingdom is reexported, but the bulk is consumed in that country.

Direct exports of grapefruit from Porto Rico to Europe, principally the United Kingdom, in 1930-31 amounted to 92,000 boxes. In competing in European markets Porto Rico is benefited by relatively favorable shipping rates, low production costs, and the ability to produce a large percentage of small-sized fruit. Shipments of grapefruit from Porto Rico averaged 672,000 boxes a year during the 5-year period 1926-27 to 1930-31.

During the last four years exports of grapefruit from Palestine have increased from 2,000 boxes in 1927-28 to 57,000 boxes in 1930-31. Around 100,000 boxes are expected to move out of Palestine during the 1931-32 season. Most of the grapefruit goes to the United Kingdom, but a wide distribution is being obtained for the remainder. This is a high-quality grapefruit and is well liked in all markets. Exports from South Africa in the last two seasons have amounted to around 100,000 boxes a year. No large expansion in grapefruit production is expected in South Africa. Practically all of the South African grapefruit is exported to the United Kingdom. Some increase in production has occurred in the British West Indies, especially Jamaica, but exports are not heavy as yet. Exports from the Isle of Pines are now well above 200,000 boxes a year after a decline in 1927-28 and 1928-29, owing to the hurricane damage. Exports from Brazil and Argentina are not important at present, but considerable competition may be expected from these sources in the future.

The smaller grapefruit crop forecast for Florida in 1931-32, coupled with the unfavorable financial conditions in the United Kingdom, indicate that exports to that country in the coming season are not likely to be as large as last year.

STRAWBERRIES

Present indications are that the 1932 commercial strawberry acreage will be increased about 22 per cent over the relatively small harvested acreage of 1931 but will still be 6 per cent less than the average for the years 1927-28 and 1929. These increases are most marked in the second-early and intermediate States, where acreage reductions since 1929 have been especially large. In the eastern late-marketing States and in the Pacific Coast and Mountain States, the commercial acreage for picking in 1932 is expected to be only slightly larger than the 1931 harvested acreage.

The commercial strawberry acreage picked in 1931 was the smallest since 1926 and was about 23 per cent smaller than the average yearly acreage picked from 1927 to 1929. The estimated total of 186,860 acres for harvest in 1932 is 33,600 acres larger than the 1931 harvested acreage, and exceeds

that of 1930 by about 10,700 acres. Although the severe drought in 1930 adversely affected yields in that season, the 1931 yield per acre for the country as a whole was larger than for any year since 1926, and 34 per cent higher than the low yield of 1930. Although the 1931 harvested acreage was 13 per cent less than that of 1930, owing to very good yields, production in 1931 was 17 per cent larger than the low production of 1930; but the 1931 crop was about 18 per cent less than the average of the large crops during 1927-1929. In 1931, prices to growers for the country as a whole averaged about 3 cents per quart less than the favorable price of 1930, but were slightly higher than the prices realized for the crops of 1928 and 1929.

In the early-shipping States (Florida, Louisiana, Alabama, Mississippi, and Texas) the indicated 1932 acreage for harvest is 46,140 acres. This figure represents an increase of about 8 per cent over the 1930 acreage. This yearly estimate may be reduced by dry weather which has interfered with the setting of plants. Strawberry acreage in these States has been increasing gradually, decreases from the acreage of the previous year having been reported only twice since 1919.

Although the average price to strawberry growers in the early States in 1931 was 16 per cent less than the average price for the five previous years, the average yield per acre was almost 40 per cent larger. Consequently, the large 1931 crop of 76,448,000 quarts brought the growers \$14,650,000, which was about 21 per cent greater than the previous high return from the 1928 crop.

In the second-early States of Arkansas, Tennessee, North Carolina, Virginia, South Carolina, and Georgia, the preliminary reports indicate a total of 41,800 acres for picking in 1932. This figure exceeds the low 1931 harvested acreage by about 40 per cent, and exceeds the 1930 acreage by about 1 per cent, but is less than the harvested acreage of other years since 1926. Notwithstanding the 1930 drought in many parts of these States, yields in 1931 were greatly improved over the low yields of 1930 and averaged better than for any year since 1927.

Although the 1931 acreage was 28 per cent below the 1930 acreage, because of favorable yields, total production was about 10 per cent larger than the small production of 1930; but production in this group of States in 1931 was 36 per cent less than the average production for the five years preceding 1930. Strawberry prices to growers in the second-early States in 1931 averaged 85 per cent of the 1930 prices and were about the same as in 1929, but somewhat better than the low price of 1928.

Present indications are for substantial acreage increases in 1932 in each of the second-early States. The increase in the two States of Arkansas and Tennessee is expected to be about 8,500 acres, which is 72 per cent of the total indicated increase for the second-early group.

In the intermediate shipping States of Missouri, Kansas, Illinois, Oklahoma, Kentucky, Delaware, Maryland, and New Jersey, preliminary indications point to a commercial acreage for picking in 1932 of 46,960 acres. This figure exceeds the 1931 commercial harvested acreage by about 11,300 acres and the harvested acreage of 1930 by slightly more than 3,400 acres, but is 25 per cent less than the average acreage harvested during the three large crops of 1927-1929. It is about 20,000 acres less than the record acreage of 1928.

Yields in the intermediate States in 1931 were only slightly better than the low yields of 1930, and were only 73 per cent as high as the average yield for the five crops that preceded the 1930 crop. With the greatly reduced acreage and with relatively low yields, production in these intermediate States in 1931 was smaller than for any year in more than a decade, being only about 50 per cent of the average annual production for the five preceding crops. Prices to growers in the intermediate States in 1931 averaged 26 per cent less than the 1930 prices, but were considerably improved over the low prices realized for the 1928 and 1929 crops.

Production tendencies in the late-marketing Eastern States, and in the Western States (Pacific Coast and Mountain) have little direct bearing on returns to strawberry growers in the Southern States; however, late marketings from Southern States compete to some extent with the earlier marketing of the late States and frozen-pack southern strawberries also compete with the frozen-pack output of western plants.

Reports from growers indicate that the 1932 commercial acreage for picking in the late States of Indiana, Iowa, Michigan, New York, Ohio, Pennsylvania, and Wisconsin will be increased about 11 per cent over the 1931 harvested acreage, and about 2 per cent above the previous record acreage of 1924.

In the Pacific Coast and Mountain States, where the commercial strawberry crop is largely sold to local processing plants and for consumption as fresh fruit in western markets, the estimated total of 24,620 acres for picking in 1932 is slightly larger than the previous record acreage of 1928, and exceeds the 1931 harvested acreage by about 6 per cent.

WATERMELONS

The 1931 commercial watermelon acreage of 235,780 acres exceeded the 1930 acreage by about 1 per cent and was the highest on record. The yield per acre in 1931 for the country as a whole was less than in 1930 and, notwithstanding the slightly increased acreage, total production was about 7 per cent below the record 1930 crop. Total carlot shipments approximated 52,000 cars, which were about 15 per cent below the record 1930 shipments. Prices to growers in the early States declined about 17 per cent below the relatively low 1930 prices. In the second-early States prices averaged about the same as in 1930, when they were the lowest in more than a decade.

In 1931 the early watermelon acreage in Florida and California was 41,200 acres compared with 44,200 acres grown last season. Acreage in Florida was about 11 per cent less than in 1930 and 23 per cent below the record plantings of 1929. Shipments from Florida were much later than usual and, with increased competition from the second-early States, prices to Florida growers averaged about 20 per cent lower than in 1930. In the Imperial Valley of California the watermelon acreage in 1931 was increased about 7 per cent over the high 1930 plantings and production was the largest on record. Prices to California growers were the lowest in more than a decade and about 7 per cent less than the average price realized for the 1930 crop.

In the second-early States, the 1931 acreage was slightly lower than the record of 145,800 acres grown in 1930. Increases in the Carolinas largely offset a 5 per cent decrease in Georgia, which State contributed about 52 per cent of the total acreage of this group. The yield per acre in Georgia, however, was about 30 per cent less than the favorable 1930 yield, and production in the second-early States was more than 20 per cent below the large 1930 crop. Prices to growers in Georgia and South Carolina improved somewhat over the low 1930 prices, but in the other States of this group, Alabama, Arizona, Mississippi, North Carolina, and Texas, prices averaged lower than last year. For the second-early States as a whole prices to growers averaged about the same as in 1930, and the total farm value of the 1931 crop was the lowest since 1919.

Acreage in the late States (Arkansas, California-other, Colorado, Delaware, Illinois, Indiana, Iowa, Maryland, Missouri, Nevada, New Jersey, Oklahoma, Oregon, Utah, Virginia, and Washington) exceeded the 1930 acreage by 18 per cent and was 2 per cent above the previous high record of 1926. The larger acreage grown in this group of States—50,600 acres in 1931 compared with 42,800 acres in 1930—was mainly responsible for the record acreage shown for the country as a whole. The 1931 yield per acre for this group was considerably above average and the estimated total production exceeded the previous record crop by 15 per cent.

SUGAR

Reports to date indicate that the 1931-32 total world beet and cane sugar production is likely to be less than last season's record crop of 31,737,000 short tons. (Tonnage figures in this report are given in terms of raw sugar.) Low sugar prices and the restrictive measures of the Chadbourne sugar stabilization plan which affect seven of the world's heaviest sugar-exporting countries are primarily responsible for the reduction. (The countries affected are Cuba, Java, Germany, Czechoslovakia, Poland, Belgium, and Hungary.) Total stocks as of September 1, 1931, in 11 countries for which data are available are well above the heavy stocks at the same date last year. Excluding the quantity of sugar segregated by the seven countries which are signatories to the Chadbourne sugar stabilization plan, which amounts to 2,800,000 short tons, stocks are slightly below those of last year. Sugar prices continue low, although a slight improvement is noticeable when the monthly average of the last few months of the current year is compared with the same months in 1930.

The 1931-32 total sugar production in the United States is estimated at 1,129,000 short tons, which is 282,000 short tons below the production reported

for last season. This production is approximately one-fifth of the annual sugar consumption of the United States.

Beet-sugar production in the United States has been around 1,000,000 short tons during recent years with the exception of 1930, when production amounted to about 1,300,000 short tons; but in 1931 a number of factories, especially in the Great Lakes area, are not operating. Production of beet sugar was forecast as of the 1st of October at less than 1,000,000 tons. This reduction may be explained in large part by the increased competitive advantage of alternative enterprises in the sugar-beet areas, occasioned by relatively lower sugar prices.

In Louisiana the introduction of new varieties of sugarcane a few years ago has increased the average yields of cane and at the same time has maintained the production of sugar per ton of cane ground. Under these conditions Louisiana is in a more favorable position for the production of sugarcane than was the case a few years ago. The estimated production of 163,000 short tons of sugar for this season, however, is 21,000 short tons below that of last season.

A preliminary estimate of the European beet-sugar crop, excluding Russia, indicates a reduction of about 2,700,000 short tons from that of the previous season, when 9,514,000 short tons were produced. In Russia, an increase of 456,000 short tons is indicated. All countries of Europe with the exception of Austria, Latvia, and Turkey show noticeable decreases from last year, according to Licht's estimates. The five European countries that are signatories of the Chadbourne plan show a total decrease of over 1,500,000 short tons from the crop produced in the season just completed.

Available information pertaining to the world cane sugar prospects is as yet incomplete. According to the Chadbourne plan the 1931-32 production in Cuba is to be limited to 3,914,000 short tons, a quantity sufficient to cover domestic consumption and United States requirements, and to cover a limited quantity for export to other countries. It has been proposed to reduce the Cuban production figure, however, as it now seems likely that Cuba will not be able to export its full quota of sugar from the 1930-31 crop before the end of the year. In order to avoid further accumulation of stocks it has been suggested, therefore, that the 1931-32 production be reduced by an amount equivalent to the remainder of the United States export quota left unsold by January 1, 1932, but no definite action has been taken.

The 1932 production in Java is expected to show a reduction from the one now being harvested. The Java sugar-manufacturing season extends from April to November. The actual figure for the 1932 crop is not definitely stated for Java, but as the total production, in accordance with the Chadbourne plan, is expected to be large enough to cover the 1932 export quota of 2,535,000 short tons plus requirements for domestic consumption, estimated at about 440,000 short tons, the 1932 crop consequently may be expected to reach about 3,000,000 short tons or about 300,000 short tons less than the crop now being harvested.

A preliminary estimate of cane-sugar production in Taiwan (Formosa) indicates a crop of 122,000 short tons above that of last season, whereas in the Union of South Africa a reduction of 22,000 short tons from last year is indicated. Although no official estimates of the crop prospects in Hawaii and Porto Rico are available, trade reports indicate that the total production of these two territories will not be far different from that of last year.

At the end of the first year in which the Chadbourne sugar stabilization plan has been in effect most of the European countries had exported practically their entire quota for the first year with the exception of Germany and Poland. Germany failed by 92,000 short tons to export the quantity of sugar allowed under the plan. The plan provides that total exports from Cuba, Czechoslovakia, Germany, Poland, Hungary, and Belgium, during 1931-32, may be increased by that quantity, the allotment being distributed among those countries at a given ratio.

The sugar year as indicated by the Chadbourne sugar stabilization plan is as follows: Europe, except Czechoslovakia, September 1 to August 31; Czechoslovakia, October 1 to September 30; Cuba, January 1 to December 31; and Java, April 1 to March 31.

On the basis of Licht's estimates for the European beet-sugar crop, it seems likely that sugar stocks in the five European countries that are members of the plan will be considerably reduced by the end of the 1931-32 season, provided consumption during the coming year does not fall below that of 1930-31.

Cuba and Java still have a considerable quantity of sugar-export quota left to be marketed within a limited time. In the case of Cuba there was on September 1 a total of 1,508,000 short tons to be marketed by January 1, 1932, which marks the end of Cuba's sugar year. Of this quantity, 1,256,000 short tons are allotted for export to the United States and 252,000 short tons to other countries. During the period September 1 to December 31, 1930, Cuba exported a total of 1,337,000 short tons of which the United States took 1,123,000 short tons and other countries 214,000. Java, on September 1, 1931, had 1,919,000 short tons to be exported during the months September, 1931, to March, 1932. Last year's total exports from Java during those months amounted to 1,591,000 short tons. Unless their exports exceed those of last year, Cuba and Java will not be able to export their full quota for this year.

Efforts are being made by the International Sugar Council, the official administrative body of the Chadbourne plan, to persuade Peru, the Dominican Republic, France, and Italy to become members of the sugar stabilization plan. Although these countries have not yet joined the plan they have taken somewhat similar steps for crop restriction within their own borders. In France, aside from an indicated reduction in sugar-beet acreage during 1931, a given quantity of sugar has been segregated and is to be held off the market for a given time or until prices are more favorable. Until recently France has been on an import basis but it is now practically self-sufficient. Negotiations regarding the plan are also being made with Russia but so far nothing has materialized.

Raw-sugar prices have shown a steady downward trend since 1927. The average annual wholesale price of raw sugar, duty paid, at New York in 1930 was 3.4 cents per pound, which is the lowest average annual price since 1895, when the average for the year was 3.3 cents per pound. For the first five months of 1931 prices remained below those during the same months in 1930, averaging 3.3 cents as compared with 3.5 cents in 1930. Since June, however, a slight improvement over last year is noted. The average for the four months of June through September in 1931 was 3.4 cents as compared with 3.2 cents for the same months in 1930.

The 1930-31 world sugar production of cane and beet sugar is estimated at 31,737,000 short tons, which is the largest world sugar crop on record. It exceeds the previous record crop of 1928-29 by 3.5 per cent. The 1930-31 crop would very likely have been even larger had not Cuba limited production to 3,500,000 short tons, a reduction of over 1,000,000 short tons from the probable production of an unrestricted crop. As a result of the crop restriction in Cuba the 1930-31 world cane-sugar crop fell 1,302,000 short tons below that of 1929-30, the total production amounting to 19,212,000 short tons as compared with 20,514,000 short tons in 1929-30. This decrease, however, was more than made up for by an increase of 2,432,000 short tons in the world beet-sugar production. The large beet-sugar crop was mostly accounted for by Russia, where the production rose from 907,000 short tons in 1929-30 to 1,914,000 short tons in 1930-31.

Among cane-sugar-producing countries Hawaii and the Philippines produced crops about equal to those of the preceding year. In India 3,559,000 short tons were produced as compared with 3,092,000 short tons in 1929-30. Production in Java, according to an early estimate, was 3,326,000 short tons. Trade reports state, however, that the 1930-31 production will be about equal to the crop of 3,245,000 short tons produced in 1929-30.

RICE

United States' supplies of rice for the 1931-32 season based on carry-over and forecast production appear to be about the same as for 1930-31. About 1,211,000 pounds were disposed of during the 1930-31 season with an average price of \$3.58 per 100 pounds for Fancy Blue Rose at New Orleans, and 118,000,000 pounds were carried into the current season. Prices during August and September this year were well below those of the corresponding period last season and the disappearance of milled rice was accordingly greater than for the first two months of 1930-31. Information on 1931-32 supplies in other exporting countries is not yet available. Japan, one of the principal importing countries, reports a crop for 1931 below average, but owing to a heavy carry-over supplies for 1931-32 appear to be about normal.

The 1931 crop for the United States based on conditions as of November 1 was forecast at 43,045,000 bushels (11,957,000 barrels) as compared with

44,869,000 bushels (12,463,600 barrels) accounted for from the 1930 harvest, and a 5-year 1925-1929 average crop of 40,876,000 bushels (11,354,500 barrels). The carry-over as of August 1 was estimated to be the equivalent of 118,000,000 pounds of milled rice, which is 38,000,000 pounds larger than the carry-over a year earlier but about the same as the average carry-over of the last five years. Supplies for the southern belt for the 1931-32 season were estimated to be about the same as the 1,092,368,400 pounds accounted for last year. The supplies of California rice for the 1931-32 season appear slightly larger than for 1930-31.

The disappearance of the 1930-31 United States crop indicates somewhat smaller domestic takings with sales to island possessions and exports somewhat above average. Exports of rice grown in the United States totaled 224,549,000 pounds during the 1930-31 crop year as compared with 224,364,000 pounds for the 1929-30 crop year and an average of 209,843,000 pounds for the 5-year period 1925-26 to 1929-30. Sales of United States rice to Porto Rico during 1930-31 totaled 210,880,000 pounds, which was the largest annual movement to this market. Shipments to Hawaii during the 1930-31 crop year totaled 88,250,000 pounds, which is the largest annual movement to Hawaii. There has been a steady upward movement in the takings of United States-grown rice by Porto Rico and Hawaii. The annual takings of Porto Rico appear to have been affected more by changes in prices than have the annual takings of Hawaii.

The domestic market, consisting of continental United States and insular possessions, normally takes between 900,000,000 and 1,000,000,000 pounds of the United States crop each year. The total quantity exported usually varies with prices more than do the takings of the domestic market. For the five years 1926-27 to 1930-31, when domestic prices were relatively low, annual exports averaged about 250,000,000 pounds. During the period 1923-24 to 1925-26, when domestic prices were high, annual exports averaged only 865,000 pounds.

The accounted-for disappearance of the 1930-31 supplies were as follows: Continental United States, 687,404,400 pounds; Porto Rico, 210,880,000 pounds; Hawaii, 88,250,00 pounds; total domestic, 986,534,000 pounds; exports, 224,549,000 pounds; and 118,285,600 pounds carried into the 1931-32 season makes a total of 1,329,368,000 pounds for the year. The apparent supply for the 1931-32 season, based on stocks as of August 1 and forecast production from crop conditions as of October 1, is 1,275,726,804 pounds.

The movement of new-crop rough rice to mills during the first two months of the crop year was heavier than the usual movement which over a period of 10 years has averaged about 16 per cent of the crop. In past years when the movement from farms to mills exceeded the normal rate, the usual effect has been to depress prices during the period of heavy movements.

The movement of milled rice into consuming channels during August and September was heavier than for the corresponding period last year. Exports were slightly below normal, whereas shipments to Porto Rico and Hawaii were about average. Shipments to Porto Rico during August and September totaled 24,861,000 pounds as compared with 25,501,000 pounds for the corresponding period last year and a 5-year average (1926-27 to 1930-31) of 16,967,000 pounds. Shipments to Hawaii during the first two months of the crop year totaled 13,800,000 pounds, which was slightly above the movement to that market for the corresponding period last year and above the 5-year average of 11,134,000 pounds for August and September. Exports during August and September totaled 12,689,000 pounds as compared with 11,317,000 pounds for the corresponding period last year and a 5-year average, 1926-27 to 1930-31, of 14,174,000 pounds. The bulk of the exports during the first two months of the crop year was from southern ports. California exports, especially to Japan, have been light. A spread of from 80 cents to \$1.00 per 100 pounds between the San Francisco and Tokyo price of brown rice usually exists when Japan is buying this grade of rice in the San Francisco market. Middle quality brown at Tokyo was selling at \$2.80 per 100 pounds on October 8. The quotation for No. 1 brown rice at San Francisco on October 8 was \$2.85 per 100 pounds.

Data on world production in 1931 are not available at this date. The Japanese rice crop is officially reported to be the equivalent of 17,287,000,000 pounds of cleaned rice. This is the smallest crop since 1926 when only about 17,465,000,000 pounds were harvested. Owing to the record crop of

21,000,000,000 pounds harvested in 1930 and the unusually large stocks of old rice carried into the 1931-32 season, however, the domestic supplies of rice in Japan for this year appear to be about average.

Prices of milled rice in the southern belt during August and September were at a lower level than at any time since the spring of 1921. Fancy Blue Rose at New Orleans averaged \$3.12 per 100 pounds during September as compared with \$4.17 per 100 pounds a year before and an average of \$3.58 for the 1930-31 crop year. By the middle of October this variety and grade had further declined to \$2.87½ but a marked improvement occurred in the latter part of that month. The price of fancy California-Japan at San Francisco was quoted at \$3.12½ per 100 pounds on October 26 as compared with \$3.65 a year earlier and an average of \$3.75 cents per 100 pounds for the 1930-31 season. Rough-rice prices likewise have been low since the beginning of the 1931-32 season. During September, No. 2 (United States grade) Early Prolific, averaged from \$1.55 to \$1.60 per barrel f. o. b. shipping point in southern belt; No. 2 (United States grade) Blue Rose was selling under \$2 per barrel during the latter part of September. There was, however, very little new-crop Blue Rose on the market until the middle of October. No. 1 paddy f. o. b. Sacramento growing points averaged from \$1.25 to \$1.35 per 100 pounds during the week ended October 20.

POULTRY AND EGGS

Noteworthy factors in the poultry and egg situation as viewed in October, 1931, were a decreased number of poultry on farms, increase in current market receipts of poultry over last year, stocks of poultry in storage above both last year and the 5-year average, stocks of eggs in storage considerably less than last year but only slightly less than the 5-year average, and current market receipts of eggs at the four markets slightly above last year. Farm prices of poultry have shown about the usual seasonal decline this year and farm prices of eggs have shown about the usual fall seasonal rise. Poultry-feed prices during the year have shown a greater decline than either poultry or egg prices.

POULTRY

The number of hens in farm flocks on October 1 (not including pullets hatched this year) is reported as 3 per cent less than the number on October 1, 1930. The number of pullets of laying age is reported at 9.3 per cent less than the number reported at the same date last year and pullets not of laying age at 8.1 per cent less. All pullets being kept for layers are shown at 8.6 per cent less than last year.

The combined number of hens and all pullets kept for layers reported in farm flocks on October 1 this year is 6.2 per cent less than the number reported on October 1, 1930. The decrease is about 10 per cent in the West North Central and in the South Central States, 4 per cent in the North Atlantic and far-Western groups, and 3 per cent in the South Atlantic. The number remains unchanged in the East North Central States. These figures are based upon returns for flocks containing less than 340 hens and pullets of laying age, on October 1, and therefore they fail to show changes in large commercial flocks. The much smaller receipts this year than last of eggs at primary markets on the west coast, where commercial flocks are important, indicates that the decreases in commercial flocks has been greater than in farm flocks for that section of the country.

Owing to the later hatchings this year, it was expected that pullets would reach laying age later than last year when hatchings were unusually early, but the season this year has been so favorable for growth, compared with last year, that the difference in the date of hatching has probably made little difference in the proportion included in the laying flock on October 1.

The number of young chickens other than pullets on hand October 1 is reported at 1 per cent more than on October 1 last year.

The reported number of all young chickens of this year's hatch on hand in farm flocks on October 1 is 5.2 per cent less than on October 1 last year. The reported number was 10 per cent less on July 1, 14 per cent less on June 1, and 21 per cent less on May 1. The fact that the relative shortage in numbers this year has become less pronounced as the season has advanced is no doubt due to the larger proportion of late-hatched chickens this year. The reduction in the

total numbers of young chickens by geographic divisions is 10 per cent in the West North Central States, 9 per cent in the South Central States, 8 per cent in the North Atlantic, and 5 per cent in the far-Western group. An increase of 1 per cent is shown in the East North Central States and 3 per cent in the South Atlantic States.

The marketing of poultry from farms has been especially heavy all through the year. Very low prices for eggs late last winter and early spring led to a sharp culling of farm laying flocks and a heavy sale of hens during that period. Close culling, although slightly less drastic, continued during the summer months of 1931 with the result that the markets as a rule have been well supplied with fowl, and prices of fowl have suffered a greater decline than has occurred on other classes. Of late, however, the marketing of hens has shown a tendency to slow up materially; principally, it is believed, because of the recent marked improvement in fresh-egg prices. In addition to the low egg prices of the early part of the year as a stimulus to heavy marketing of poultry, economic conditions this year have perhaps made it necessary for farmers to market poultry more closely than usual, to obtain ready cash for current expenses. Furthermore, plentiful supplies of feed on farms with a very low value on the cash market, relatively favorable poultry prices, have been added incentives for heavy marketings. Growing conditions for the 1931 crop as a rule were greatly improved over those of a year earlier, and poultry sent to the markets in late summer and early fall were generally better finished and weighed more per bird than in 1930.

Total receipts of fresh-killed dressed poultry at the four markets, New York, Chicago, Boston, and Philadelphia, for the first nine months of 1931, amounted to 218,997,000 pounds, compared with 198,612,000 pounds a year earlier. This is an increase of about 10 per cent over the corresponding receipts of last year, which were likewise large. The heavier receipt of dressed poultry, however, was partially offset by a lighter movement of live poultry. Receipts of live poultry for the nine months at New York, the most important domestic live-poultry market, were approximately 236 cars less than for the same period in 1930. At Chicago, the receipts were about 243 cars less, making a combined decrease for the two markets of 479 cars, which represents approximately 5,580,000 pounds in terms of dressed poultry. Receipts this year are relatively heavier in pounds than in numbers owing to the heavier weight of the latter due to the more favorable season for growth and possibly to heavier feeding.

Relatively small quantities of dressed poultry were stored in the fall of 1930. The stocks of broilers as of October 1, 1930, were 11,895,000 pounds as compared with 13,650,000 pounds on October 1, 1931, and the 5-year average of 13,366,000 pounds. The stocks of fryers were 2,771,000 pounds on October 1, 1930, compared with 3,765,000 October 1, 1931, and a 5-year average of 2,361,000; roasters 5,420,000 October 1, 1930, 6,327,000 October 1, 1931 and a 5-year average of 5,648,000 pounds; fowls 5,644,000 pounds October 1, 1930, 6,996,000 October 1, 1931, and a 5-year average of 5,947,000; turkeys 3,603,000 on October 1, 1930, 3,364,000 on October 1, 1931, and a 5-year average of 4,565,000; and miscellaneous classes 17,605,000 October 1, 1930, 22,081,000 October 1, 1931 and a 5-year average of 16,206,000. The strengthening effect of the very light storage stocks on the early 1931 poultry markets, however, was offset to a large extent by the unexpectedly heavy market receipts during the first few months of the year. Prices at which poultry moved out of storage, therefore, were lower than had been anticipated generally; but even at the lower prices, some profit was realized on the major portion of the stock, with fowl being possibly the principal exception.

The low point of cold-storage holdings of dressed poultry in 1931 was reached in late June instead of in late August or September, as usual. Larger market receipts and a smaller consumptive demand than the previous year, in early summer, led many shippers and dealers to store a considerable portion of their stocks rather than to sell at prices below costs. The heavy culling of farm flocks earlier in the year, smaller numbers of young stock on farms, and a marked decline in the number of salable chicks hatched in commercial hatcheries created a general belief throughout the trade that poultry receipts would be much lighter during the last half of 1931 than during the same period a year earlier. At the beginning of the new storage season, therefore, speculative interests were fairly active in accumulating reserve stocks, but with a continuation of the heavy receipts into the early fall months when a decline (compared with last year) was expected, such interests became more conservative. Storage stocks, however, continued to increase rapidly after July 1 as the storage season

progressed, principally to the account of receivers, or the joint account of receivers and country shippers. At the low point of the 1931 season, July 1, stocks of poultry in storage amounted to 32,735,000 pounds, which was about 31,500,000 pounds less than on the same date in 1930, and 11,500,000 pounds less than the 5-year average for that date. By October 1, the latest date for which complete information is available, stocks had increased to 56,183,000 pounds, which was slightly over 9,000,000 pounds more than on October 1, 1930, and about 8,000,000 pounds more than the 5-year average for October 1.

The urban consumption of poultry during the first nine months of 1931 was apparently smaller than for these months in 1930. The disappearance of dressed poultry from trade channels on the four principal markets was about 4 per cent less than during the same period a year earlier. Likewise, consumption of live poultry decreased by about the same percentage, the cities of New York and Chicago—the only two markets for which definite information on live poultry is available—having received approximately 479 cars less, or about 4 per cent less, up to the end of September than was received during the corresponding period of 1930. Consumption of poultry during the first few months of the year was particularly large; this was especially true of fowl which were at that time being moved to market in very liberal quantities and on which very low prices prevailed.

During the early summer months when the first of the 1931 crop began to be marketed, smaller supplies of broilers and fryers, because of later hatchings than in 1930, led to a higher price on these classes and consumption fell below that of the corresponding period of last year and remained so until September. In late August and in September, receipts of broilers, fryers, and young roasters were very heavy, and with a very sharp decline in prices on these classes consumption in September showed some increase over the consumption for that month in 1930.

The farm price of chickens, which usually makes a pronounced seasonal rise in the spring and a gradual decline during the rest of the year, did not advance so much in the spring of 1931 as usual and did not fall materially from May to September, being 15.9 cents on May 15 and 15.7 cents on September 15. From September 15 to October 15 it fell more than usual—to 14.4 cents. October prices showed about the usual seasonal relation to May prices. For the first three-quarters of 1931, the United States farm price of chickens averaged 23, 19, and 9 per cent, respectively, below the corresponding quarters of 1930. The October 15 farm price of 14.4 cents per pound compares with 17.4 cents in 1930, with 19.8 cents for the five years 1923-1927, and is the lowest October figure since 1916.

Feed for poultry is in ample supply this year. Corn, normally the principal component of the poultry ration, showed on October 1 an indicated crop about 20 per cent larger than the very short crop of 1930, and only 2 per cent smaller than the 5-year average, while the wheat crop is about 2 per cent larger than last year and 8 per cent above the 5-year average.

The declines in the farm prices for chickens and eggs, compared with either last year or the levels of recent years, are much less than the declines in the prices of feed for poultry. The October 15 farm prices of eggs and chickens and of poultry feed, were, respectively, 86, 83, and 48 per cent of the October prices last year, and 62, 73, and 41 per cent of the October average prices for the years 1923-1927. The marked improvement in prices of grains in late October will alter these relations somewhat.

EGGS

The average number of eggs laid this year per 100 hens has exceeded the average number laid during recent years, in every month save one. October 1 reports for farm flocks show 26.2 eggs laid that day per 100 hens and pullets of laying age, compared with 24.8 on October 1 last year and a 5-year October 1 average of 25.2. In the October record of six previous years this year's figure was equaled only in 1926. The combined 10 daily layings per 100 hens for the first day of each month from January to October, this year, aggregated 389.5 eggs, compared with 372.2 for the same 10 periods last year, 370 for the 5-year average and 378.9 eggs for these months in 1929.

The favorable season, abundance of feed, close culling, and a higher-than-usual proportion of wheat in the ration are factors in the high rate of laying this year.

Owing to the reduced numbers of layers, the total production of eggs shows only a small increase. The number of eggs laid per farm flock, which reflects the total production of eggs, was 18.6 eggs on October 1, compared with 18.2 for October 1 last year, 18 eggs for the October 1 5-year average, and the previous record of 18.7 eggs on October 1, 1926. The total number of eggs laid for the 10 reports from January to October is 291.1 eggs per farm flock, compared with 290 for the same months last year, and 285.2 for the 5-year average of these months.

The receipts of eggs at four markets this year for the period of January to September, inclusive, were approximately the same as in 1930, amounting to 13,498,165 cases compared with 13,481,121 cases a year earlier. The mild open winter of 1930-31 which was favorable to a heavy total production in spite of a sharp culling of farm laying flocks led to very liberal receipts during the winter months and up to the latter half of March when they began to drop below corresponding receipts of the preceding year. For the remainder of the period receipts were very irregular, running below those of 1930 in the months of April, May, July, and September, and rising above in June and August.

The fall and winter egg markets of 1931-32 opened with stocks of shell eggs in storage considerably less than a year ago on corresponding date, although only slightly less than the 5-year average. Peak stocks of eggs in storage this year were reached on July 1 with a total of 9,507,000 cases, compared with the peak on August 1, 1930, of 11,198,000 cases and 10,249,000 for the August 1 5-year average. Since the peak was reached this year, the net out-of-storage movement has lagged considerably behind both last year and the 5-year average, amounting to only 1,548,000 cases compared with 2,024,000 cases last year, and 2,065,000 cases for the 5-year average. As a result, the favorable margin of difference between this year's stocks and those of last year and the 5-year average has gradually narrowed. Total stocks on hand as of October 1 amounted to 7,959,000 cases, still considerably less than the 9,174,000 cases reported a year earlier, but only slightly less than the October 1 5-year average. The relatively plentiful supplies of fresh eggs reaching the markets during the early fall months has made it somewhat difficult to move storage eggs.

The smaller stocks of shell eggs in storage this year are partially offset by large stocks of frozen eggs, which, on August 1 (the peak of the net into storage season) amounted to 114,700,000 pounds compared with 116,272,000 pounds a year earlier, and to 84,532,000 pounds for the 5-year average. Since August 1 the net reduction of frozen stocks, however, has been somewhat heavier than the reduction last year and heavier than the 5-year average reduction, amounting to 11,454,000 pounds for the months of August and September combined compared with 9,641,000 pounds for the same period in 1930, and a 5-year average net reduction of 5,993,000 pounds. No definite information is available on prevailing market quotations for frozen eggs, but it is understood generally that dealers in frozen eggs are pushing sales aggressively in order to prevent, if possible, a repetition of last year's large carry-over of stocks at the end of the season.

The exceptionally low retail prices on shell eggs during the first part of the year had a marked influence on increasing egg consumption at urban points, judged by the quantities that disappeared from trade channels in the four principal markets during that period. Consumption was especially large, compared with previous years, during the months of January, February, and March, when the necessity of moving into consumption large quantities of storage eggs from the preceding season in competition with the heaviest mid-winter production of fresh eggs known for years, forced prices to the lowest levels reached since before the World War. During these three months consumption in the four principal markets increased 17 per cent. For the first nine months of the year, however, consumption increased only 6.6 per cent. After the cold-storage stocks were cleared in early March, and prices showed some improvement with the beginning of the 1931 into-storage season, consumption became irregular, falling below 1930 in April, but rising above in May, June, and July, when prices were again at about the same level as was reached in mid-winter. With the drought once more adversely affecting egg production during late July and

August, prices began to show the full seasonal advance and consumption again weakened during August and September and dropped below the 1930 level.

The average United States farm price for eggs on October 15, 1931, was 22.7 cents per dozen, which compares with an October price of 26.5 cents in 1930, an October average of 36.6 cents for the years 1923 to 1927, and is the lowest October price since 1911. Although egg prices, in common with those of other commodities, have been considerably below 1930 levels during the first 10 months of 1931, the difference has gradually been getting smaller. Egg prices in the fall of 1930 were depressed by the largest storage stocks on record and during the spring of 1931 they were depressed by heavy production and a limited storage demand. During the first quarter, fresh firsts at New York averaged 14.3 cents below corresponding prices in 1930, 6.2 cents below in the second quarter and only 3.7 cents below in the third quarter. On a percentage basis, 1931 prices were 41, 26, and 16 per cent, respectively, below prices in the corresponding quarters of 1930. The seasonal rise from the average of the low month, June this year, to the October average has been about as much as usual—41 per cent in the case of fresh firsts. Fresh firsts at Chicago rose this year from 18.6 cents during August to 24.2 cents during October, whereas prices of refrigerator standards for November delivery fell in that market from 22 cents in August to 18.6 cents in October, repeating the declining trend of prices of refrigerator standards for November delivery shown last fall, when prices averaged 28.4 cents and 21.7 cents for the same months.

DAIRY PRODUCTS

The dairy situation in the early fall of 1931 was characterized by nearly 4 per cent more milk cows on farms than a year earlier with numbers increasing at an unprecedented rate; by a fairly large supply of grains and concentrated dairy foods selling at the lowest prices in years; by a supply of dairy roughage larger than that of last year though substantially below average; and by an unusual price situation, involving prices for dairy products that are in many cases strikingly above the depressed level of prices being received by farmers for most agricultural products. Although domestic wholesale dairy prices are unusually high in comparison with foreign prices, retail prices of dairy products are relatively low in comparison with the retail prices of other foods. Milk production was kept low by drought during most of the summer, and until harvest it was held down in certain areas by a local shortage of grain. Also current market supplies of dairy products are low by reason of the unusually small quantities put into storage during the period of heavy production. Consumption of butter was stimulated by the very low prices prevailing earlier in the year and is still large despite higher prices during recent months. The dairy situation in the northeastern sections producing market milk is rather different from that farther west in that production has been maintained by good pastures. Consumption of fluid milk and cream still appears to be low and prices have not recovered as much as has the price of butter.

It has probably been many years, perhaps a generation, since there was such a general and widespread tendency to keep more milk cows as there is to-day. Very few cows are now being culled from the herds. From the 1st of June through September the number of cows and heifers slaughtered under Federal inspection averaged only 77 per cent of the slaughter for the same months during the last eight years. Six thousand dairymen, who on the 1st of October reported to the United States Department of Agriculture the number of milk cows on their farms and the number they expected to have a year later, showed that they were expecting to increase the number of milk cows on their farms by 11.3 per cent. The actual increase will of course be less than this because these reports on expectations do not make adequate allowance for loss of cows by disease or other causes which can not be foreseen. For example, in November, 1930, dairymen reported that they expected to increase the number of milk cows on their farms by 8.7 per cent and the actual increase in all herds during the last 12 months has probably not been over 4 per cent. It is significant, however, that the increase now reported as expected is substantially above that reported a year ago.

Apparently the general tendency to increase the number of milk cows, which has been in evidence for about three years, has been further stimulated, temporarily at least, both by the abnormally low prices of grains and commercial

feedstuffs in comparison with what farmers are securing for butterfat, and by the very low returns being secured from most cash crops in comparison with the returns farmers in the same areas are securing from the sale of dairy products. In the Northeast the unemployment situation is also checking or reversing the movement of population away from the farms, thus permitting further dairy expansion. In the South the necessity of producing on the farms a larger share of the food needed is a compelling factor, and the large local supply of cottonseed products and the larger acreage of hay and feed crops harvested in parts of the South this year have stimulated local dairy expansion on a commercial scale. In the Corn Belt and in the West the higher price of butterfat as compared with prices of hogs and sheep is tending to shift interest to milk cows. For these reasons the number of milk cows is now increasing in nearly every State. This upward tendency is, in part, in response to the more or less temporary feed situation, but it is so widespread that it must be allowed for in all plans.

Up to the middle of October the increase in milk-cow numbers had not resulted in an excessive supply of dairy products, except locally in some market-milk areas. The favorable rates of cheap grain in comparison with that of butter have developed since harvest. From April through July grain was higher in comparison with butterfat than in the same months during any of the previous 10 years. The drought reduced pasturage, and, with prices unfavorable for feeding and with many farmers short of grain, production of milk per cow was unusually low from May to at least the 1st of October. Most of this time production per cow was even lower, month by month, than during the drought of last year. After several months of short pastures and reduced grain feeding dairy herds could not be quickly brought back to full production. Locally, in South Dakota, Minnesota, and some other States, where the hay supply is short, the present low production of milk is due, in part, to the fact that many of the farmers are feeding straw, as was the case in the drought area last year. This season the drought was particularly severe in the principal butter-producing States, and the quantity of butter put into storage was abnormally low, so that current supplies are reduced. Such a condition of reduced supplies of dairy products has not often lasted very long when prices were favorable for feeding grain. There are more milk cows on the farms, there is more grain in the barns, and, during recent months, prices of dairy products have averaged relatively much higher than the prices of grain and higher than most other agricultural products.

The feed situation is having such an influence on changes in numbers of cows that it needs special consideration. Grains and butterfat prices are all changing greatly from day to day; but apparently in the middle of October the price of a mixed grain and concentrate dairy ration was lower in comparison with butterfat than at any other time in the last 20 years except in November, 1921. Since October, butterfat prices have fallen somewhat and grain prices have risen. The total production of corn, oats, barley, and grain sorghum combined was less than average but farmers have been feeding large quantities of wheat. Production of mill feeds is below average but exports are low. Allowing for wheat and cottonseed being fed, and for reduced exports, the total tonnage of grain, mill feeds, and concentrates available for feeding is about up to average. The demand for feed was also reduced by the slowness of buyers to take hold so long as prices continued to decline. In many cases farmers selling grain have been receiving less than half the pre-war price; and with butterfat bringing about the pre-war price, there is good reason for their present plan of marketing a larger share of their grain as butterfat, if present price relations hold.

Conditions vary sharply between farms, between localities, and between the various sections of the country. On October 1, Oklahoma dairymen reported the value of the grain and concentrate ration then being fed to their cows as 61 cents per 100 pounds and in Kansas and Nebraska the value was 65 cents. At the same time Connecticut dairymen were feeding a mixture costing them \$1.77 per 100 pounds and the New England average was \$1.65. In dollars this difference between East and West may be no greater than usual but on a percentage basis it is probably the greatest in many years, for freight rates are now very high in comparison with the price of grain in the surplus grain areas of the West.

The hay situation is rather markedly different. The hay crop was fairly good in the East but was short in Michigan and farther west. On September 15 hay was cheaper in Maine than in Wisconsin and some reports from Wisconsin indicate that at wholesale prices hay was worth as much per ton as bran. On

September 15 oats were worth 17 cents per bushel in Minnesota and 31 cents in New York but clover hay was worth about the same in both States, averaging \$9.80 per ton in New York and \$9.40 in Minnesota.

These differences in feed costs are not only causing changes in feeding practices but they are causing geographic shifts in production and they affect the dairy outlook in the various sections of the country. With freight rates high in comparison with the prices of milk and cream, and also high in comparison with grain prices, it is more difficult for dairymen in the Central States to ship milk and cream to the East or South but it is also exceedingly difficult for eastern or southern dairymen who buy western grain to produce butterfat in competition with the surplus-grain States. In most market-milk areas that use purchased feeds, dairymen who produce milk in excess of local market requirements have to market the surplus at low prices compared with the cost of grain they buy. With hay now somewhat cheaper in comparison with grain, eastern dairymen are feeding more hay and less grain than in some recent years. Their production per cow is not high but with labor plentiful and much land not fully utilized they are keeping more cows.

The combined production of the leading manufactured dairy products during the first nine months of 1931, on a milk-equivalent basis, is estimated to have been about 1 per cent less than during the corresponding period of 1930. Production by commodities, however, was very irregular and was likewise irregular in different months. Substantial increases occurred in both creamery butter and evaporated milk for the months of January to April, inclusive, but with the development of unfavorable production conditions in midsummer, particularly in the intensive dairy States of the Middle West, the manufacture of these commodities suffered an abrupt decline to a level below that of the preceding year. This relationship held throughout the summer and, regardless of a relatively large increase during the first part of the year, the total production of creamery butter for the first nine months of 1931 amounting to 1,272,230,000 pounds, was only 0.89 per cent more than the production for the same months of 1930.

Regional changes in butter production during the summer of 1931 were most significant in the North Central States, where the great bulk of domestic butter production originates. All States in that general area showed material increases up to May, but in May and throughout the heavy producing months that followed, sharp decreases occurred in the western portion of this area, which includes Minnesota, Iowa, the Dakotas, Kansas, Nebraska, and Missouri. In the eastern portion of the area, or that part which comprises the States of Wisconsin, Illinois, Indiana, Michigan, and Ohio, there were increases each month of the year except July. The net change for the first group of States mentioned, during the 9-month period, January to September, inclusive, was a decrease of 17,000,000 pounds, or 2.7 per cent, below the same period in 1930; in the other group of States there was a net increase of 18,000,000 pounds, or 5.2 per cent. Thus, in the entire area, butter production just about equaled that of last year. In the New England States, butter production was 14 per cent lighter than in 1930 during the above period, with monthly changes ranging from a 27 per cent decrease in May to a 2 per cent increase in August. Production in the Middle Atlantic States was 2 per cent heavier for the whole period, with decreases registered in May, June, and July. Neither of the foregoing sections, however, can be regarded as important producers of butter, since city markets constitute the principal outlets for milk. In the South the net change during the period covered was an increase of 7.7 per cent, amounting to approximately 5,000,000 pounds. Although the production of this area is not large in relation to total United States butter production, the consistent upward trend is important as an indication of commercial dairy expansion. In the Mountain States production in 1931 exceeded that of 1930 prior to the flush season, but since then has run considerably lower than last year. Reports for Pacific Coast States, on the other hand, show that production has been heavier throughout 1931 than throughout 1930.

Production of evaporated milk in 1931 up to October was estimated as 1.8 per cent less than the same period of last year, with very heavy decreases occurring since July 1. The total decrease for this product from January 1 to October 1 amounts to more than 25,000,000 pounds. Condensed milk production was also less, the decrease from the same 9-month period being 54,000,000, which is a reduction of 20 per cent below 1930. Estimated production of American cheese during this period was 4.9 per cent less than last

year, with a large part of this change due to the very unfavorable season in Wisconsin, where a large portion of domestic cheese is produced. For the first nine months of the year, Wisconsin cheese production is estimated as 7.2 per cent less than 1930, New York State 8.5 per cent less, but Pacific Coast States 5.2 per cent more. In the South Central States, which are becoming of increasing importance, there was an increase of approximately 20 per cent during this period. That section now contributes about 4 per cent of the total United States production.

Information is available regarding milk dealers' average daily purchases per producer in a number of the more important fluid milk areas, for the first eight months of 1931. In these areas as a whole, average daily purchases per producer were heavier each month of this year than in the corresponding month in 1930. The percentage increases amounted to but 1 to 2 per cent during May, June, and July, but prior to these months, and again in August, the increases were heavier, April being 6.5 per cent and August 5.1 per cent above the corresponding months of 1930. As individual market areas are considered, however, considerable irregularity occurred. In New England the daily average purchases per producer were actually lower than in 1930 from March through July, except for the month of June. August shows a heavy increase. In the areas that supply New York City, increases occurred during each of the eight months. In the Baltimore area there were heavy decreases up to August, and a slight increase during that month. In the Pittsburgh and Cleveland area, 1931 has averaged higher than 1930 by substantial quantities, but in Chicago and Detroit decreases were registered.

Stocks of nearly all important classes of dairy products were lighter, by an appreciable margin, on October 1 this year than last year. Butter in cold-storage warehouses on October 1 amounted to 80,000,000 pounds, which was more than 51,000,000 pounds under the holdings of the same date a year earlier, and constituted the lightest stocks on record for that date. Although stocks of American cheese during the first five months of the year were generally heavier than on the same dates in 1930, a lighter production and a well-maintained consumption trend throughout the year made for a reduction of nearly 20,000,000 pounds as compared with last year on October 1, total stocks on that date this year being approximately 66,000,000 pounds. Evaporated-milk stocks were also sharply reduced, in comparison with a year ago, during the late summer months, partly because production was lighter and partly because of the sharply increased movement into trade channels. On October 1 stocks of evaporated milk in manufacturers' hands were only 136,000,000 pounds, compared with 218,000,000 pounds a year previous. Condensed-milk stocks of 51,000,000 pounds on the same date were 20,000,000 pounds less than on October 1, 1930. On a total milk-equivalent basis, October 1 stocks of butter, cheese, condensed milk, and evaporated milk represented 2,937,000,000 pounds of milk, compared with 4,472,000,000 pounds on October 1 of last year, a reduction of 1,535,000,000 pounds of milk equivalent, or 34 per cent. Compared with the average October 1 stocks during the last five years combined stocks this year were about 31 per cent less.

One of the important features of the 1931 dairy-market situation was the increased consumption of butter and evaporated milk. Butter consumption during the first nine months of the current year was nearly 2 per cent heavier than during the same period in 1930. Comparatively low retail prices, the lowest for many years, seem chiefly responsible for the increased consumption, although it appears that rapidly advancing butter prices during the first part of October did not affect sales to any noticeable degree. A heavier consumption of evaporated milk was offset, at least to some degree, by a lighter demand for fluid milk.

Cheese consumption in 1931 has fallen short of consumption last year. Retail cheese prices were relatively higher than butter prices throughout most of the year. On a milk-equivalent basis, the apparent consumption of the important classes of manufactured dairy products was 1 per cent greater during the period January to August, 1931, than during the corresponding period in 1930.

From January, 1929, to September, 1931, the general level of wholesale prices in the United States declined 29 per cent. Farm prices during this period declined 46 per cent and on September 15 were 28 per cent below pre-war prices. During this period of declining prices the farm price of feed grains declined 61 per cent as compared with a decline of 37 per cent in the farm price of dairy products. Even though prices of dairy products are low

when compared with prices in previous years they are relatively high as compared with grain prices and with the prices of most classes of livestock. These changes in price relationships are much the same as those that occurred during the deflation of 1920-21.

The wholesale price of 92-score butter at New York during the first 10 months of 1931 averaged 27.8 cents, compared with 37 cents for the first 10 months of 1930 and 45.6 cents for the same period of 1929. In June, 1931, the price of butter reached a low point of 82 per cent of pre-war. Since June, butter prices have made more than the usual seasonal increase and during October the price averaged 107 per cent of the pre-war price.

The wholesale price of cheese (twins) on the Wisconsin Cheese Exchange for the first 10 months of 1931 averaged 12.6 cents per pound as compared with 16.6 cents and 20.2 cents for the same months of 1930 and 1929, respectively. The decline in cheese prices was much the same as the decline in butter prices. The low point of cheese prices, 10.4 cents per pound, or 76 per cent of pre-war, was reached in May, 1931. From May to September cheese prices advanced about 35 per cent, but declined in October to 87 per cent of the pre-war prices.

Milk distributors' buying prices for fluid milk for fluid use have declined about 23 per cent during the last two years as compared with a 30 per cent decline in butter prices and a 35 per cent decline in cheese prices. In most fluid-milk territories prices of milk for fluid use are relatively stable. In a period of generally declining prices, fluid-milk prices tend to decline less than prices of butter and cheese, and in a period of rising prices they tend to rise less rapidly than prices of butter or cheese. Butter and cheese prices reached a low point in May and June, 1931, and since then have made more than the usual seasonal increase. Prices of fluid milk for fluid use have continued downward since midsummer. In September the index number of dealers' buying prices for fluid milk for fluid use was 121, the index number of butter prices was 106, and of cheese 96, as compared with 153, 130, and 117 a year ago.

The general decline in wholesale prices of dairy products has been reflected in retail prices. During the last two years the index number of the retail prices of dairy products declined 24 per cent.

In September, 1931, the retail price of fresh milk in American cities was 15 per cent less than two years ago, the retail price of butter was 34.4 cents per pound, or 26 per cent, less than two years before; cheese was 26.5 cents a pound, or a decline of 30 per cent, in two years. The index number of the retail prices of dairy products in September, 1931, was 118 (1910-1914=100) as compared with 124 for all foods.

The tariff on various dairy products recently became fully effective in the sense that the rates of import duty were equaled by price differences in favor of domestic over foreign markets.

Although prices of butter were advancing during the late summer and early fall in the United States, foreign prices remained comparatively stable with a downward tendency since late August. Late in September the drop in exchange value of the pound sterling and the Danish krone had the effect of lowering London and Copenhagen prices in terms of United States currency, thus widening still further the margins of domestic over foreign prices in terms of gold. As recently as October 15 the export price at Copenhagen and the London price of finest New Zealand butter were both lower than the price of 92-score butter in New York by 15 cents a pound gold equivalent. This is the first time since June, 1930 (when the import duty was raised to 14 cents a pound), that the tariff rate has been equaled by these price margins. Subsequent declines in domestic butter prices have narrowed this margin to 10 cents as of October 29. The season of widest margins of domestic over foreign butter prices normally occurs in our winter and early spring months, but this year offers of foreign butter in New York have already attracted attention and some importation from Canada occurred during September.

Declines in London prices in terms of United States currency have been less marked to date in cheese than in butter while domestic prices have not advanced on cheese as they have on butter. With domestic prices of Cheddar cheese about a third higher, however, than the equivalent at current exchange rates of London quotations, price margins on cheese also are about equal to the ad valorem tariff rate of 35 per cent on cheese imports.

The effect of the depreciation of the pound sterling upon our trade with Great Britain in evaporated and dried milk has been to place exporters in the United States at a disadvantage.

During the current year, until the depreciation of the pound sterling, Great Britain had been consuming record quantities of butter, some of which would normally have been absorbed by Germany had not buying power already been lower in that country than in other recent years. During eight months of 1931 the combined imports of butter into Great Britain and Germany, which represent from year to year about 90 per cent of the imports of all Europe, amounted to 752,000,000 pounds which was greater than the volume imported during the corresponding period of 1930 by 37,000,000 pounds, or 5 per cent. Of the total, Great Britain's imports were 16 per cent heavier in the 1931 period, whereas imports into Germany were 26 per cent lighter. It is reported that European margarine consumption has been checked this year.

Stocks of butter and cheese in storage are not definitely known for foreign countries as a whole, but such figures as are available indicate relatively heavier supplies on hand than in the United States.

Foreign dairy products consumed within the United States have averaged around 1,000,000,000 pounds in milk equivalent annually, or about 1 per cent of the total consumption, during most of the last decade. The proportion of imports to domestic production has tended to decline since 1929, particularly as affected by the almost complete cessation of imports of cream and milk from Canada under the greatly increased tariff rates effective in June, 1930. During 1931 to date, imports of all dairy products have exceeded exports to a still less extent than in other recent years, but price relationships now prevailing between foreign and domestic markets may result in some increase in net importation.

European dairy production during 1931 to date appears to have been but little heavier than last year with most of the increase in the total European supply having been from sources in the Southern Hemisphere. Exports of butter from Australia alone during the period, July 1, 1930, to June 30, 1931, amounted to 164,000,000 pounds compared with 108,000,000 pounds the previous year. Reports covering the first three months of the current season indicated production as running well ahead of the corresponding period of the previous season. New Zealand dairy production for the year ended July 31, 1931, is officially estimated to have represented an increase over the previous season in terms of total butterfat of 2.5 per cent which is less than the average annual rate of increase for New Zealand during recent years and production during the current season to date has been about the same as a year earlier. For some years the decline in butter exports from Argentina had been notable, but in 1930 both production and exportation were heavier than in any year since 1926, and shipments afloat from Argentina have been heavier this season than on corresponding dates of 1930.

Dairying in the South is now in a stage of rapid expansion with no possibility yet of determining how far this expansion will go. The livestock survey of last June indicated about 6 per cent more milk cows on the farms of the 11 Cotton Belt States than on the same date in 1930, about 7 per cent more heifers freshening during the 12-month period, fewer cows sold for slaughter during the previous six months, and more spring heifer calves being saved. Since June the price of butterfat has risen and the price of cotton has fallen, making dairying appear relatively more attractive. Moreover rather large crops of hay and feed have been harvested in the South and the prices of cottonseed meal and hulls have fallen to exceedingly low levels. As a result of this situation dairying is being resorted to by many southern farmers as offering a way out of their present difficulties. The replies of the dairy correspondents of the United States Department of Agriculture, who reported in October the number of cows they expected to have next year, showed a general tendency toward further expansion of dairy herds quite comparable with the situation prevailing a year ago. Southern farmers who are planning to keep more milk cows in order to produce on their farms a larger share of the food needed by their families are not likely to regret the move, and most farmers who are so located that they have a good market for fluid milk would seem to be fully justified in increasing their herds, for good quality milk still brings a relatively high price in most cities of the South.

On the other hand, southern farmers who are planning to increase their sales of butterfat must look closely to competitive production costs in the western Corn Belt States, for the number of milk cows in that area has been materially increased, and farmers there are planning further increases because of the very low price of grain. The South has some advantages in butterfat production in that pasturage can be made available for a rather long period

and only inexpensive buildings are needed, but in the long run dairying is likely to be most successful in those sections of the South in which good pasturage, leguminous forage, and either mill feeds or grain, are available at moderate cost.

HOGS

Hog numbers on farms and supplies of hog products in storage in the United States are larger than a year ago, but are smaller than the 5-year average. Numbers in important European producing countries also are larger than in 1930, and United States exports of hog products this year have been the smallest in more than 30 years. Feed supplies in the hog-producing States are more plentiful and more evenly distributed than last year. In early October, hog prices were much lower than at the same time last year, but they had declined relatively less than feed prices. During October, however, hog prices continued to decline while corn prices advanced at the central markets, so that on November 1, based on market prices, the hog-corn ratio was not greatly different from that of a year earlier.

Hog slaughter in the hog-marketing year which began with October, 1930, was the smallest in four years and apparently marked the end of a cycle in market supplies which began with 1926-27 and reached its peak in 1928-29. The first evidence of expansion in hog production since 1927 was revealed by the June, 1931, pig survey.

Inspected slaughter of hogs during the crop-marketing year which began with October, 1930, amounting to 43,558,000 head, was 4.4 per cent less than that of the previous marketing year and was 11 per cent less than in the year 1928-29. Because of the heavier weights at which hogs were marketed during the 1930-31 year, total live weight of slaughter was only 3.1 per cent less than that of the previous marketing year and 9.9 per cent less than in the year 1928-29.

Apparently the 1930-31 marketing year marked the end of a cycle in hog slaughter which began in 1926-27 and reached its peak in 1928-29. The June, 1931, pig survey made by the Bureau of Agricultural Economics in cooperation with the Post Office Department, through the rural mail carriers, showed an increase of 2.5 per cent in the 1931 spring pig crop over that of 1930. The increase in the North Central States (Corn Belt) where most of the commercial supply of hogs is produced was 3.7 per cent. Ohio, Indiana, and Missouri were the only States in this area that showed decreases. Increases in the other Corn Belt States ranged from 2.2 per cent in Iowa to 14.3 per cent in North Dakota. In other areas, the changes from last year ranged from decreases of 9.5 per cent in the South Central, 8.6 per cent in the North Atlantic, and 1.5 per cent in the South Atlantic, to an increase of 15.8 per cent in the Western States. Hog production in the Western States apparently is being stimulated by the prevailing prices for wheat. South Carolina was the only State in the South to show a marked increase in the spring pig crop over that of a year earlier. About the same number was reported in Florida, Georgia, and North Carolina, but all other Southern States reported marked decreases.

The June survey also showed a marked increase in the number of sows to farrow this fall if farmers carry out their intentions as expressed at the time the survey was made.

In making their production and marketing plans hog producers need to consider not only the changes taking place in total volume of production, but also the factors that influence the seasonal distribution of marketings. The distribution during the winter season is usually determined largely by (1) the relationship between hog prices and feed prices and (2) the trend of hog prices during the preceding winter.

In any winter following a winter in which hog prices declined most of the season, as they did last winter, there is usually a tendency for hog marketings to be unusually large during the early winter months. This tendency is not so pronounced, however, when hog-feed price ratios are favorable for feeding. The recent advances in corn prices and the continued declines in hog prices have sharply reduced the favorable hog-feed price ratio which prevailed in early October, and the hog-corn ratio on November 1 was about average.

The favorable relationship between hog prices and feed prices during the fall and winter months of 1930-31 resulted in delayed marketings and the finishing of hogs to heavy weights. Slaughter from October to December, 1930, was 10 per cent smaller than in the corresponding months a year earlier, but during each month from January to April, 1931, it was larger than during those months

of 1930. Slaughter from May to August was smaller than during those months in 1930 owing largely to a reduction in the 1930 fall pig crop and in the increase in the number of sows and gilts held over for breeding purposes. During September and October, however, slaughter was again larger than during the corresponding period a year earlier owing to the increase in the spring pig crop and the tendency to market a larger-than-usual proportion of that crop in a poorly finished condition and at light weights during the early fall. In some sections, particularly in Nebraska, western Minnesota, and the Dakotas, early marketing was due to scarcity of feed, resulting from drought conditions. Localized outbreaks of hog cholera, the need for cash for current expenses, and the steady decline in hog prices since early August were additional factors which caused many producers to market hogs earlier than usual.

At the beginning of the 1930-31 hog-marketing year, storage supplies of pork and lard were unusually small, being 33 per cent smaller than those on October 1, 1929, and 23 per cent smaller than the 5-year average for that date. As a result of reduced exports and curtailed consumption during the next four months and greatly increased slaughter during January, stocks on February 1, 1931, were about 1 per cent larger than those on that date in 1930. By the 1st of May the increase in holdings over those of a year earlier had risen to 18 per cent. Most of this increase was in pork, as lard stocks remained at a relatively low level during most of the year. During the spring and summer months, accumulations of cuts from heavy hogs were especially noticeable and these accumulations were in part the cause of the unusually wide spread between prices paid for light and heavy hogs during that period.

Since midsummer the storage situation has improved considerably as a result of the heavy movement of products out of storage. Supplies of pork in storage on October 1, the beginning of the current hog-marketing year, were only 6 per cent larger than the unusually small holdings on October 1, 1930, and were 12 per cent smaller than the 5-year average for that date. Lard stocks were 17 per cent larger than those of the corresponding date last year, but were 38 per cent smaller than the 5-year average on that date.

The corn crop for 1931 was estimated as of October 1 at 2,702,752,000 bushels. This is about 600,000,000 bushels more than the unusually short crop of last year, but nearly 60,000,000 bushels less than the 5-year (1925-1929) average. The general shortage of roughage and pasture, due to the drought in the north-western Corn Belt States, resulted in a larger percentage of corn being cut for fodder, and this tends to limit further the supply of grain available for feed in that area. In most other areas, supplies of corn are average or above average and crops of roughage also equal or exceed those of last year except in the Northern and Western States.

Corn production in the western Corn Belt States as a group is estimated to be slightly larger than in 1930, increases over last year in Iowa, Kansas, and Missouri more than offsetting the large reduction in other States in this area. Supplies of nearly all grains in the eastern Corn Belt States, except Wisconsin, are materially larger than last year. Total feed supplies and pasture in the Corn Belt are shortest in Wisconsin, Minnesota, northern Iowa, Nebraska, and the Dakotas. In most of this area the corn crop is estimated to be smaller than last year's short crop and the shortage of corn can not be made up by substituting other feeds, since supplies of barley, oats, and wheat in this area are also materially smaller than those of last year.

In the southern States and southwestern Great Plains States supplies of both corn and oats are above last year and above average. In those States in which the drought was most severe last year, corn supplies are materially above average and are three to five times as large as last year. Corn production in the South Atlantic States, from South Carolina to Florida, are slightly below both last year's production and the average, but this is more than offset by the unusually large production in the other Southern States.

The market price of corn declined materially during August and September. As the new crop of corn has become available the farm price of corn has also shown marked declines. On October 15 corn prices were below wheat prices in all areas except a few of the Eastern States and those west of the Continental Divide. Hog prices also declined during this period, but not so rapidly as corn prices and this has resulted in an increase in the hog-corn ratio. Based on farm prices, the hog-corn ratio on October 15 was 14.1 for the United States, 13.3 for the North Central States, 10.3 for the South Atlantic States, and 14

for the South Central States. Since October 15 market prices of corn have advanced while hog prices have declined.

The decline in consumer demand for pork products which began early in 1930 continued during the first half of 1931. During the last hog-marketing year which ended with September 30, 1931, per capita consumption of pork and lard from Federally inspected slaughter, amounting to 55.6 pounds, was 2.4 pounds, or 4.1 per cent, smaller than that of the 1929-30 marketing year. Price comparisons for the two periods show a decline of 4.1 cents per pound, or 11 per cent, in the composite retail price of pork products and 2.4 cents per pound, or 25 per cent, in live-hog prices. Per capita consumption in September was about 7 per cent larger than in September, 1930, but retail prices were 6.6 cents per pound, or 17 per cent, lower than in September, 1930, and live-hog prices were 4.5 cents per pound, or 45.5 per cent lower.

Consumer demand for pork products during the marketing year 1929-30 was considerably weaker than the unusually strong demand which prevailed during 1928-29, but was not greatly different from the 6-year average, 1922-23 to 1927-28. In 1930-31 it was further reduced to the lowest level in the last nine years.

Increased hog production in European producing countries and decreased purchasing power of European consumers have adversely affected the United States export trade in hog products. Total United States exports of all hog products during the 1930-31 marketing year were the smallest in more than 30 years. In that year, total exports of pork decreased 140,000,000 pounds, or 44 per cent, from those of a year earlier, while exports of lard fell off 199,000,000 pounds, or about 26 per cent. Practically all importing countries took smaller quantities of American cured pork and nearly all countries except Great Britain purchased less American lard.

The upward trend in European hog production which has been under way during recent years continued during the 1930-31 year. In Denmark, total hog numbers on July 15, 1931, were estimated to be 5,473,000 head, an increase of 12.3 per cent over the preceding year. Hog numbers in Germany on September 1, 1931, totaled 25,348,000 head, an increase of 8.2 per cent over those of a year earlier. There is also evidence of substantial increases in the Netherlands, Poland, and the Baltic States.

Price trends of hogs and hog products in European countries have been similar to those in the United States. Prices prevailing during most of the year just closed were near or below pre-war levels for most products. The outlet for American cured pork products in Great Britain during the 1930-31 hog-marketing year was much reduced from that of a year earlier. This reduced outlet was most pronounced for bacon, because of the competition from record supplies from Denmark and the larger supplies from other continental countries. Increased lard production in Germany and greater competition from other countries, especially Denmark, affected materially the importation of American lard into Germany during the marketing year just closed. Lard prices in that country during October, 1931, were unusually low for the post-war period and were well below the pre-war average. Lard prices in Great Britain were also at an unusually low level during the 1930-31 marketing year, although lard imports from the United States exceeded those of the preceding year.

Hog prices during the hog-marketing year ended September 30, 1931, were severely affected by the reduced domestic and foreign demand resulting from the world-wide business depression and they averaged about 25 per cent lower than those of the year previous despite a reduction in slaughter supplies. Usually the low point of the year in hog prices is reached between mid-November and mid-December, but in the 1930-31 marketing year prices declined steadily from October, 1930, to February, 1931. After a temporary seasonal rise in March the decline was resumed in April and was not checked until early June. The seasonal rise during June and July was small and in early August prices again turned downward. During the last week in October, hog prices at Chicago averaged \$4.85 per 100 pounds which was the lowest average for any week since the third week in March, 1908.

The spread between the prices paid for heavy and light hogs was relatively narrow at the beginning of the marketing year, but later as the proportion of heavy hogs in the market supply increased the spread became unusually wide, reaching its maximum in late July. Since early August this spread has narrowed, owing to a decrease in the number of packing sows in the market

supply and an increase in marketings of lightweight hogs from the 1931 spring pig crop.

Notwithstanding the 3 per cent reduction in the total live weight of hogs slaughtered during the 1930-31 marketing year, the average price paid by packers was only \$7.21 per 100 pounds as compared with \$9.58 a year earlier and \$10.03 during the 1928-29 marketing year. This falling off in both price and volume resulted in a reduction of \$273,000,000 in the gross return to producers for hogs slaughtered under Federal inspection from the returns in the previous marketing year and a reduction of \$400,000,000 from the returns during the year 1928-29. The 25 per cent drop in the average price paid for hogs in the 1930-31 year compared with that paid in 1929-30 was offset in part by a decline of 12 per cent in the prices of commodities bought by farmers.

Hog numbers have been decreasing since 1928, and between January 1 of that year and January 1, 1931, numbers decreased 8,294,000 head, or 13.7 per cent. Of this reduction, 4,525,000 head, or 54.6 per cent, occurred in areas outside of the Corn Belt. The decrease in the Corn Belt amounted to 3,769,000 head, but more than three-fourths of the reduction in this area occurred in the five States east of the Mississippi River. The tendency to expand hog production in the western Corn Belt States has been very marked since the World War, and on January 1, 1931, this group of States had 56.4 per cent of the total hogs in the country, whereas in 1920 they had only 36.6 per cent of the total.

The decrease in hog numbers in the Southern States from January 1, 1928, to January 1, 1931, amounted to 2,947,000 head, or 27 per cent. Although hog production increased in these States during 1926 and 1927, the general trend has been downward for many years. January 1, 1931, hog numbers in the South represented 15 per cent of the total number in the United States, whereas in 1920 they represented 27 per cent of the total. Production in that area has been reduced nearly 50 per cent in 11 years.

Low prices of feed and indications of a much larger corn crop than that of last year along with a restricted credit supply available for expanding cattle and sheep feeding operations are the principal factors that have caused hog producers to make plans for expanding hog production this year. The hog situation so far in 1931 has been similar in many respects to that of 1921. At that time business activity was at an unusually low level, and the domestic demand for pork products had been greatly reduced. Although hog prices were low, corn prices were relatively lower and the hog-corn ratio was favorable for hog feeding.

SHEEP AND LAMBS

The sheep industry apparently is at the peak of a production cycle. Numbers have been increasing since 1922 and the 1931 lamb crop was the largest on record. This large crop, together with poor range and feed conditions in the Western States and restricted credit, is causing many western sheepmen to market more than the usual proportion of their lambs and to hold back fewer ewe lambs for breeding. The proportion of unfinished lambs in the marketings from the Western States during the summer and fall of 1931 has been much above average.

With larger feed-crop production than last year, the Corn Belt is taking considerably more feeder lambs than it did in 1930. Fed lambs from this area are normally marketed in largest numbers during the early winter. In Colorado and western Nebraska, where lambs are fed mostly for the late-winter and spring market, decreased feed production and restricted credit are tending to prevent any material expansion in lamb feeding over last winter.

In the native sheep States, where sheep are part of a general farm business, there is apparently little tendency for farmers to reduce breeding flocks, since prices of most alternative farm products offer no incentive for expansion in other lines of production. In fact, some farmers in these States are taking advantage of present low prices of sheep to buy breeding stock.

World wool production continues large and the clip this year is indicated to be about as large as the record clip of 1928. The increase in the United States clip over that of last year amounts to 25,000,000 pounds, or 7 per cent. Wool textile manufacturing activity in this country has increased materially. Until recently no significant improvement had developed in other important manufacturing countries, but after the departure of Great Britain from the gold standard in September, activity in British mills increased considerably. Wool prices in foreign markets continue at very low levels.

LAMBS

The lamb crop of 1931, estimated by the Department of Agriculture at 31,684,000 head, was 2,320,000 head, equivalent to 8 per cent, larger than the lamb crop of 1930. Of the total increase 590,000 head were native lambs and 1,730,000 head were western lambs, the increase in the former being about 6 per cent and in the latter 9 per cent.

The increased lamb crop of this year was due both to the increase in the number of breeding ewes and to an increase in the number of lambs saved per hundred ewes, from 87.4 in 1930 to 89.6 in 1931. The 5-year average number saved per hundred ewes was 87.3.

The increase in the western lamb crop was rather general over the area but was most marked in Texas, where the number of lambs per 100 ewes increased from 65 last year, when it was low, to 77 this year and where also there was an increase of 13 per cent in the number of breeding ewes. This resulted in an increase of about 35 per cent in the Texas crop. The increase in the combined crop of the Southern States (excluding Texas) amounted to 6.5 per cent.

The marketings of this year's lamb crop to date have been relatively heavy. Inspected slaughter from June to September, inclusive, was 10 per cent larger than in the corresponding period last year and 26 per cent larger than in the same months of 1929. Shipments of feeder and stocker lambs and sheep inspected through markets into the 11 Corn Belt States during the three months, July to September, were about 20 per cent larger than for the same months last year and 6 per cent larger than the 5-year average. All of this increase over last year was in the movement into the western part of the Corn Belt. Although feed-grain production in the States east of the Mississippi River is much larger this year than last it had not resulted in increased purchases of feeding lambs up to the end of September. The three months' movement into this area was about the same this year as last, but was only about 65 per cent of the 5-year average. Inspected shipments for the three months into the Corn Belt area west of the Mississippi were more than 25 per cent larger this year than last, 23 per cent larger than the 5-year average, and the largest for the period since 1919. The heavy movement this year into Nebraska and Kansas largely accounted for the increase in this area.

Developments in the lamb-feeding situation in States outside the Corn Belt to the end of September give no certain indications as to the probable volume of feeding this year in these States. There has been a heavy movement of western lambs into eastern North Dakota, with in-shipments to October 1 about as large as for the six months, July to December, last year. In Colorado the production of hay and grain is much below last year. In the San Luis Valley, where feeding last winter was greatly expanded, grain production this year is much reduced and range feed is very short. In northern Colorado and the Arkansas Valley the production of hay, sugar beets, and feed grains is much below last year. The greatest handicap in feeding, however, is the difficulty in financing feeding operations. Contracting of feeding lambs has been on a limited scale, but efforts are being made to encourage contract feeding between range sheepmen and feeders who are unable to purchase feeding stock. The situation in the Scottsbluff section of Nebraska and Wyoming is very similar to that in Colorado as to both feed and finance. Feed-grain and forage production in Texas this year is large and there has been a relatively heavy movement of feeding lambs into the high plains area in the northwestern part of the State. In the States west of the Continental Divide hay and feed supplies are generally short. This shortage is most acute in Utah and Nevada. Prices of feed grains, however, are relatively low. Commercial feeding lots in California were carrying fairly large numbers of lambs about October 1. Difficulties in financing feeding operations, on the part of smaller feeders, are reported from some States in this area.

As a result of lower consumer income during 1930 and during the first nine months of 1931, total expenditures for lamb and mutton were reduced and the increased slaughterings of the period were moved into consumption only at greatly reduced prices. Consumer demand for lamb and mutton began to decrease during the first half of 1930, when it averaged below that of the first half of 1929. During the first nine months of 1931, demand was weaker than in the corresponding period a year earlier, and was far below the level that

prevailed during 1929. Per capita consumption of federally inspected lamb and mutton in this period amounted to 4.07 pounds, compared with 3.89 pounds in the first nine months of 1930 and 3.33 pounds in the corresponding period of 1929. The increase of 4.6 per cent in per capita consumption from the nine months of 1930 to the corresponding period in 1931 was accompanied by material declines in wholesale and retail prices of dressed lamb. The average wholesale price of carcass lamb at New York declined from \$21.58 per 100 pounds in the nine months of 1930 to \$17.94 in the corresponding period of 1931. The retail price of lamb in that city declined from 34.7 cents to 28.8 cents per pound. For the same periods the average price paid per 100 pounds for slaughter lambs at Chicago dropped from \$10.12 to \$7.90.

Although a reduction in demand for lamb and mutton occurred during the first nine months of 1931 compared with demand during the corresponding period in 1930, it was not so marked as the reduction in demand for beef and pork. Per capita consumption of beef and veal decreased about 1 per cent and that of pork and lard about 2 per cent, whereas that of lamb and mutton increased about 5 per cent. Retail prices of beef decreased 18 per cent, those of pork about 14 per cent, and those of lamb and mutton about 17 per cent.

A gradual upward trend in the demand for lamb and mutton prevailed from 1922 to 1929 with prices remaining at relatively high levels although supplies and consumption were gradually increasing. Since 1929, however, the marked decrease in business activity and the decline in consumer incomes have resulted in a reduction in the demand for lamb and mutton as well as for other commodities.

Sheep and lamb prices were maintained at a relatively high level during the five years from 1924 to 1928, but in April, 1929, a sharp downward trend got under way which was not checked until early October, 1930. Prices were fairly stable during the last three months of 1930 and advanced moderately during the first three months of 1931. Since early April of this year the trend of prices has been downward and in September they were lower than in any month since 1911. The average price of sheep and lambs slaughtered during the first five months of the present marketing year, which began with May, 1931, was \$7.02 as compared with \$8.95 during the corresponding period in 1930 and \$12.59 during the same months of 1929. Larger market supplies and a weakened demand were jointly responsible for the lower level of sheep and lamb prices this year.

WOOL

World wool production continues large despite the low prices prevailing throughout the last few years. World production, exclusive of Russia and China, reached a high level of 3,210,000,000 pounds in 1928 and since then has not decreased to any appreciable extent, being estimated at 3,191,000,000 pounds in 1929 and 3,195,000,000 pounds in 1930. There has been an increase of 5 per cent in 1931 in the combined clips of seven countries which usually produce almost four-fifths of the total. New Zealand and Uruguay are the only important countries that show decreases.

The wool clip of the United States increased in 1931 to 368,000,000 pounds, or 7 per cent more than in 1930, the increase being due to increased numbers of sheep and an increase in the weight per fleece. Mild weather in the western grazing States last winter and spring undoubtedly permitted considerable numbers of old sheep to survive that would have perished under less favorable conditions.

The Australian clip, after declining from 968,000,000 pounds in 1928 to 880,000,000 pounds in 1930, is estimated to have increased 8 per cent, or to approximately 950,000,000 pounds in 1931. Unusually favorable weather and feed conditions are largely responsible for the increase in the Australian clip. A decrease of approximately 4 per cent is estimated for the New Zealand clip. Production in that country increased from 1926-27 to 1930-31.

The 1931-32 South African wool clip is officially estimated at 335,000,000 pounds. As many farmers refrained from shearing 6-month wool last season, the total clip in 1930 failed to show the 30,000,000-pound increase originally forecast. Exports for the 1930-31 season were estimated at 283,264,000 pounds grease equivalent compared with 307,212,000 the preceding season. As the carry-over on June 30 this year, at ports alone, was three times greater than

at the same time last year it seems probable that production was larger than indicated by exports.

It is estimated that the Argentine clip will approximately equal last year's production of 333,000,000 pounds and production in Uruguay is estimated at 149,000,000 pounds, or 3 per cent less. This is the first time for a number of years that there has been a decrease in the Uruguayan clip.

For 10 important countries (Australia, New Zealand, Union of South Africa, United States, England and Wales, Scotland, Irish Free State, Germany, Hungary, and Rumania), sheep numbers showed an increase of 2 per cent in 1931 compared with 1930. The increase between 1930 and 1931 was less than between 1929 and 1930. Although no estimates of sheep numbers for 1931 are available for Argentina and Uruguay, the Argentine lamb crop is reported as less than last year's and heavy losses of lambs have been reported in some parts of Uruguay. World total sheep numbers are now estimated at 748,000,000 for the years 1926-1930, compared with an average of 648,000,000 for the years 1921-1925 and 693,000,000 in 1909-1913. Numbers in Australia increased during 1928, 1929, and 1930 to reach 105,896,000 on January 1, 1931. Owing to favorable weather and pasture conditions in that country during 1931, the 1931 lamb crop is reported as having been large. Abundant feed has made it possible to fatten large numbers of sheep, and marketing has been heavy. Sheep numbers also showed increases during 1930 and 1931 in the United States, the Union of South Africa, and the United Kingdom. In New Zealand there was a decrease of 1,300,000 in 1931. In Russia, sheep numbers were reduced 25 per cent in 1930.

Although world wool production has apparently been larger in 1931 than in 1930 the increase is largely attributable to favorable climatic and feed conditions. Low incomes and necessary retrenchments are compelling the curtailment of expenditures for feed and care.

Figures for stocks of wool in the United States are not available for a recent period, but judging by figures of production, imports, and reported consumption, the supply of combing and clothing wool in this country on October 1 was probably considerably less than on the same date last year. Such comparison suggests that stocks in April, 1931, were about the same as in April, 1930. Production of shorn wool in this country for 1931 is now estimated to be 25,000,000 pounds greater than in 1930. In the six months, April-September, however, imports of combing and clothing wool were 16,000,000 pounds less than in the same period of 1930, while consumption of combing and clothing wool by manufacturers reporting to the Bureau of the Census was about 60,000,000 pounds (grease equivalent) greater than in the same period of 1930.

Unofficial figures for the United Kingdom place stocks of foreign and colonial wool in that country at about 130,000,000 pounds more at the end of September, 1931, than one year earlier. Imports into France and Belgium in the first eight months of the year declined 18 and 16 per cent, respectively, in 1931 as compared with 1930, but in view of the large imports in 1929 and 1930 and the lower consumption during the present year it is probable that stocks of wool are not low in these countries. In Italy, imports were 15 per cent lower for the first seven months of 1931 than for the corresponding months of 1930. In Germany the decline in imports of 9 per cent in 1930 was less than the decline that appeared to take place in consumption, and imports for the first eight months of 1931 were 6 per cent larger than for the corresponding months of 1930. Stocks of tops in combing establishments of France and Germany on October 1 were much larger than at this time last year but were below those of October 1, 1929 and 1930.

Wool consumption in the United States fell during 1930 because of the depression, but from the low level reached in November, 1930, it has increased sharply, and for the month of July, 1931 consumption by United States manufacturers was the highest reported for any month since May, 1923. Consumption of combing and clothing wool by reporting mills in the United States totaled 342,000,000 pounds in 1930 compared with 423,000,000 pounds in 1929 and 394,000,000 pounds in 1928, on an estimated grease-equivalent basis. For the first nine months of 1931 these mills used 318,000,000 pounds compared with 259,000,000 pounds and 320,000,000 pounds in the corresponding months of 1930 and 1929. During recent months consumption has been maintained at high levels despite the decreases that occurred in general business activity.

Imports of wool into the United States have been very low in 1930 and 1931. Total imports of combing and clothing wool for the period January 1 to September 30 were only 31,000,000 pounds in 1931 compared with 62,000,000 pounds in 1930 and an average of 98,000,000 pounds for the years 1926 to 1930 inclusive.

As a result, the reported consumption of domestic wools was 36 per cent (or 76,000,000 pounds) greater in the first nine months of 1931 than in the corresponding months of 1930, although reported consumption of all combing and clothing wool was only 23 per cent greater.

Wool consumption in European countries has declined materially during the last two years, and so far this year consumption there has made no such significant increase as in the United States. One of the important factors affecting wool consumption in the United Kingdom is the export trade in woollen and worsted tissues. This export trade has been declining since 1920, but the more rapid declines since 1928 have reflected the world depression. For the first nine months of 1931, exports amounted to 65,000,000 square yards, compared with 90,000,000 square yards for the corresponding months of 1930 and 122,000,000 square yards for these months in 1929. Unemployment in the woollen and worsted industry of Great Britain averaged 31.3 per cent during the first nine months of 1931. The suspension of the gold standard on September 21 was followed by a great increase in activity in wool manufacture at Bradford in October, and employment has increased.

The downward trend in wool prices that began in 1928 continued, with few interruptions, into 1931. Foreign prices of some wools reached their lowest levels in January. This decline resulted from severe depressions in the world wool-textile industries, falling commodity price levels generally, and continued high world wool production. After January, foreign prices recovered sharply and moved upward until the middle of March, but after this temporary improvement they declined again. At the October sales in London, prices (in gold) of the lower grades of wool were below the January levels. Since the close of the London sales, prices in the markets of Australia and the Union of South Africa have been rising and the markets are strong.

In the United States the strong consumer demand and high rate of activity in the wool-textile industry caused domestic wool prices to decline more slowly than did foreign prices, until late in 1929. This increased the margin of domestic over foreign prices. The depression in the domestic wool-textile industry in 1930, together with the continued increase in the supply of domestic wool, caused the margin of domestic over foreign prices to narrow, and except for a brief period in December, 1930, and January, 1931, this margin has been below an import basis on many grades of wool. The improvement in the activity of the domestic wool-textile industry during recent months was reflected in a strengthening of domestic prices from the end of June through September. Early in October declines were reported on most grades of domestic wool at Boston, apparently because of the increases that occurred in the margin of domestic over foreign prices.

MOHAIR

The domestic mohair market has been unusually quiet during the last year. Consumption has been low and production has been increasing. Stocks appear to be very large and although most of the supply seems to be in strong hands, sufficient quantities to meet current needs have been available at reduced prices. In foreign markets prices have also been reduced by a falling off in demand and by large supplies. So far, however, the clip of Turkey is the only one to show a decrease and this resulted primarily from excessive shedding because of delayed shearing rather than from a reduction in goat numbers.

The low rate of consumption in the United States is a result of the depression and a change for the time being in styles from mohair to other fabrics. Furniture, automobiles, and Pullman and parlor cars furnish the most important outlets for mohair fabrics. The low level of activity in these industries is of great significance to the mohair-textile industry. Although the depressing factors dominate the situation at present, some constructive factors are developing. Extensive experimental work is being conducted by manufacturers with a view to bringing mohair fabrics into public favor but as yet such uses have not become of very great volume.

Neither official nor unofficial reports are regularly available on stocks and consumption of mohair. However, stocks in the United States were privately estimated by members of the trade at roughly 20,000,000 pounds on January 1, 1931, and consumption so far in 1931 has been similarly placed at a rate of around 8,000,000 to 10,000,000 pounds compared with perhaps 10,000,000 to 12,000,000 pounds in 1930.

Although no estimate of mohair production in 1931 has yet been made all indications point to a larger production than the clip of 16,000,000 pounds in 1930. The number of Angora goats in Texas on January 1, 1931, was about 6 per cent larger than on January 1, 1930, according to a preliminary estimate of the Texas State statistician of the Division of Crop and Livestock Estimates.

Feed and growing conditions during the winter and spring were very favorable and goats at spring clippings were in unusually good shape. A large crop of kids was raised. Feed conditions during the summer and fall were above average. The number of goats clipped in the spring and the number of goats and kids clipped this fall and the average weights of fleeces are indicated as larger in 1931 than in 1930.

Feed and weather conditions in Arizona and New Mexico, the second and third States respectively in mohair production, were also exceptionally favorable in 1931 and the production in these States this year is indicated as larger than in 1930.

Mohair imports into the United Kingdom for the five months, May 1 to September 30, 1931, amounted to only 5,658,000 pounds, a decrease of 31 per cent compared with 1930 and 5 per cent compared with 1929. The total quantity imported during the entire season 1930-31, however, was 13,923,000 pounds or only slightly greater than 13,863,000 pounds imported in 1929-30.

On a calendar-year basis, apparent consumption has been less during the first nine months of 1931 than in 1930 by almost 30 per cent. During the three years 1928-1930 the quantity retained for consumption ranged from 12,000,000 to 14,000,000 pounds—compared with 20,000,000 in 1927, an average of 20,000,000 for the years 1921-1925, and 29,000,000 pounds in the years 1909-1913. Exports of mohair yarns fell from approximately 9,000,000 pounds annually in 1927 and 1928 to 6,000,000 pounds in 1930, and for the months of January through September were 4,400,000 pounds in 1930 and 3,000,000 pounds in 1931.

Preliminary estimates of the combined mohair clips of the Union of South Africa and Turkey for the 1931-32 season total between 19,000,000 and 21,000,000 pounds compared with approximately 21,000,000 pounds last year. This includes the mohair to be exported from the Union during the year ending June 30, 1932—that is, the winter clip shorn during the months of June-August and marketed in the months of October-December, and the summer clip shorn during the months of November-January and marketed from April-June, 1932. The Turkish clip is shorn during the months of March, April, and May, and the season runs from May to April. In addition 6,000,000 pounds were reported as carried over on June 30, 1931, in the Union and 3,000,000 pounds were carried over in Turkey so that the total quantity available for the 1931-32 season is estimated at between 28,000,000 and 30,000,000 pounds.

It is expected that the winter (June-August) clip in the Union of South Africa will tend to be strong this year owing to the abundance of rain which fell throughout the mohair district, according to the agricultural attaché stationed at Pretoria. The kidding season this year, which was under way in September, was expected to be good and the clip of kid hair was expected to be large and of good quality.

Some producers are turning from Angora raising to other branches of farming as mohair prices are so seriously depressed, but the process of liquidation is not likely to affect this year's clip which is already grown. Mohair producers in South Africa are faced with rather a difficult situation, however, as some of the lands now being used for grazing Angora goats are not especially suitable for grazing sheep or other livestock except common goats, which are being kept only for their skins and are not considered profitable.

Official exports for the season ending June 30, 1931, amounted to 6,204,000 pounds compared with 9,338,000 pounds in 1929-30.

The mohair clip of Turkey, which is usually shorn during the months of March, April, and May, is estimated at around 9,000,000 to 10,000,000 pounds for 1931 compared with 10,340,000 pounds in 1930, according to the monthly circular of the Ottoman Bank. In addition, the carry-over from the preceding season on hand April 30, 1931, was estimated at 3,000,000 pounds which would make from 12,000,000 to 13,000,000 pounds available compared with approximately 15,000,000 pounds last season. It has been stated that owing to the lateness in clipping this season the animals shed some hair before it was clipped. This is expected to affect the yield adversely in some districts.

Disposals for the current season from May to August 31 amounted to about 1,640,000 pounds compared with 4,399,000 pounds during the same period of 1930, 3,110,000 pounds in 1929, and 5,260,000 pounds in 1928. Stocks at the end of August at Istanbul were estimated at 5,120,000 pounds, an increase of 11 per cent over the same date of 1930 but 23 per cent less than on the same date of 1929.

In 1930 the number of Angora goats in Turkey was estimated at 2,860,000, an increase of 2 per cent over 1929. In 1927, however, the number was estimated at 3,130,000.

BEEF CATTLE

The number of cattle in the United States is larger than a year ago, but the number moving into feed lots this year, from July to October inclusive, was smaller than the movement in the corresponding period last year and much smaller than the 5-year average for that period. Shortage of feed and poor range conditions resulted in some forced marketing of cattle this summer and fall which normally might have been held back because of the present low level of cattle prices. In a few of the range States, however, feed supplies are sufficiently large to permit holding over cattle to be fed on low-priced grain and marketed early next year. The tendency to withhold unfinished cattle from the market is rather pronounced in all States where feed supplies and credit conditions permit this practice.

Feed supplies in most of the principal cattle-feeding States are much larger than last year, especially in the States east of the Mississippi River. Current prices of feeder cattle are lower than a year ago; the ratio of feed-grain prices to fat-cattle prices is higher. Factors that are tending to discourage farmers from feeding cattle, however, are scarcity of credit and the heavy losses from the feeding operations of the last two years.

The moderate increase in cattle production which began in 1928 is still under way but this increase has not yet been reflected in increased slaughter supplies. The relative economic position of the cattle industry compared with that of most alternative agricultural enterprises is about the same as when prices were on a much higher level.

Inspected slaughter of cattle during the first nine months of 1931 amounting to 6,026,000 head was slightly smaller than that during the corresponding months of 1930 and was the smallest for this period since 1921. September cattle slaughter was the smallest for that month since 1915. Calf slaughter during the first nine months of the year totaled 3,566,000 head and was almost 4 per cent larger than that during the corresponding period in 1930. Average weights of both cattle and calves were heavier than those of a year earlier and the total production of federally inspected beef and veal was about 2 per cent greater than that during the corresponding period of 1930.

Although cattle slaughter during the first nine months of 1931 was not greatly different from that of the corresponding period last year, the slaughter of steers was considerably larger and the slaughter of cows and heifers was considerably smaller. Steer slaughter, amounting to 3,359,000 head, was 4.7 per cent larger than during the nine months of 1930 and was the largest for those months since 1927. Slaughter of cows and heifers, amounting to 2,456,000 head, was 5.4 per cent under that of the first nine months of 1930 and was the smallest in the nine years for which these data are available.

Dry weather and high temperatures during the summer of 1931 seriously damaged range feed in most of the areas west of the Continental Divide and in Montana, the Dakotas, western Nebraska, Wyoming, and Colorado. In many of these States, short feed and water supplies together with restricted credit resulted in some forced marketing. In areas in which feed supplies and credit conditions permit, there is apparently considerable tendency to hold over cattle that would normally be marketed during the last half of the year. This tendency is more pronounced now than it was in midsummer, largely because of the marked advance in prices of grain-fed cattle, the continued low level of prices of unfinished cattle, and the declines in feed prices.

Cattle imports into the United States totaled 70,000 head for the first nine months of 1931, compared with 213,000 a year ago. Of the 1931 total, 51,000 came from Mexico and 19,000 from Canada.

Records of the Bureau of Animal Industry show that from January 1 to September 30, 1931, canned beef inspected for entry into the United States decreased 31,638,000 pounds, or about 72 per cent, compared with the first nine months of 1930.

Total imports of fresh and frozen beef into the United States during the first nine months of 1931 were little less than one-fifth as large as during the corresponding period in 1930, amounting to 1,620,000 pounds this year, compared with 8,678,000 pounds last year.

Canada and New Zealand are the leading sources of fresh and frozen beef imported into the United States, but the volume of such imports from these countries is less than one-fourth of that of a year ago. Cuba has sent some beef to the United States recently, but the total for the first nine months of 1931 was only about 75,000 pounds.

The weak consumer demand for beef and veal which prevailed throughout 1930 suffered a further decline during the first nine months of 1931. A continuation of the low level of business activity and the decline in the general price level and in price of competing meats were the chief contributing factors to this lower level of demand. Per capita consumption of federally inspected beef and veal during the first nine months of 1931 of 28.9 pounds was 1 per cent less than that in the corresponding period of 1930. Prices of cattle and beef, on the other hand, were materially lower. The average reduction between the two periods amounted to 6.75 cents per pound, or about 18 per cent, in the retail prices of all grades of steer beef at New York, 4.7 cents per pound, or 26 per cent in the wholesale prices of such beef, and 3.3 cents per pound, or 27 per cent, in live-steer prices at Chicago.

FEEDER DEMAND

Demand for feeder cattle this year has been below that of last year despite plentiful supplies of low-priced feed in the Corn Belt. During 8 of the first 10 months of this year shipments of feeder cattle were smaller than in the corresponding months of 1930, and prices were below those of last year in every month. This reduced feeder demand has been due largely to the unprofitable returns from cattle feeding during the last two years and the resulting credit difficulties encountered by feeders, along with a general lack of confidence in the results of cattle feeding.

Shipments of feeder cattle during July and August were much larger than those of the corresponding months in 1930. The principal reasons for the larger movement during those months were that (1) the movement last year in July and August was unusually small, (2) the advance in price of the better grades of slaughter cattle and further declines in feed prices during the late summer developed more confidence in the cattle-feeding situation, and (3) the most favorable returns from cattle-feeding operations during the 1930-1931 feeding season were from feeder cattle purchased in July and August last year. During September and October the movement of feeder cattle from 12 markets into the seven principal feeding States was about 12 per cent smaller than in those months last year. Shipments were much smaller this year than last into the States west of the Mississippi River, but shipments into the States east of the river were considerably larger than last year.

For the four months, July to October, stocker and feeder shipments into the principal feeding States this year were about 3 per cent smaller than the small shipments during those months in 1930 and were 20 per cent smaller than the 5-year average shipments for those months.

The small shipments of stocker and feeder cattle in September and October reflected the small supplies of cattle received at stockyard markets during those months. Receipts at seven leading markets during September and October this year were 11 per cent smaller than during those months last year and were the smallest for the period in many years. Records from four leading markets covering the kinds and weights of stocker and feeder cattle shipped show that during the four months, July to October, calves and cows and heifers were smaller percentages of the total this year than last and steers correspondingly larger. Of the steers there was an increase in the percentage of those weighing under 700 pounds.

Reports received from the different feeding States indicate that the volume of cattle feeding this coming winter will tend to reflect the feed situation. In States in which corn production this year is relatively large, feeder shipments are on a considerably larger scale than was true last year; but where corn production and other feed supplies are short, feeder shipments have been reduced. In nearly all States difficulties in financing feeding operations are reported and various methods of contract feeding are being proposed.

In the western cattle-feeding States supplies of hay and feed grains are much smaller than last year and difficulties in financing feeding operations

are reported. In Texas, where cattle feeding in some years reached considerable volume, feed grains and cottonseed production is large and prices for these commodities are relatively low.

The beef-cattle industry has experienced two of the sharpest price declines on record during the last two years; in both instances the declines were due largely to the sharp reduction in consumer demand. During the first decline, which occurred from early March to mid-August in 1930, the average price of beef steers at Chicago dropped from \$12.53 to \$9 per 100 pounds. A partial recovery then occurred during the last half of August, 1930, and was followed by a gradual price advance for the better grades of slaughter cattle, a stable level of prices for the lower grades of slaughter steers, and a decline in prices of other slaughter cattle during the remainder of the year. In mid-January, 1931, another sharp price decline for all classes and grades of cattle got under way and was not checked until late in May. The average price of all grades of beef steers at Chicago during that period declined from \$9.66 to \$6.68 per 100 pounds, and brought prices of most kinds and grades of cattle to the lowest level in 20 years. Ordinarily, the average price of cattle advances from January to June. Prices of the better grades of slaughter cattle have advanced materially since early June, whereas prices of feeder stock and Common grade slaughter cattle have tended gradually downward.

The decline in prices of beef steers at Chicago from the last week in October, 1930, to the corresponding week in 1931 amounted to \$1.38 per 100 pounds for Choice and Prime grades, \$1.18 for Good grade, \$2.27 for Medium grade, and \$2.52 for Common grade. During the same period stocker and feeder steer prices declined \$2.22 and the decline in prices of slaughter cattle other than steers ranged from about \$1 to \$3.

The average price of slaughter cattle during the first nine months of 1931 was \$6.49 per 100 pounds compared with \$9 in 1930 and \$10.98 in 1929. The average price of calves was \$7.54 in the first nine months of 1931 compared with \$10.12 in 1930 and \$12.94 in 1929.

Cattle numbers on farms and ranges have been on the upswing of a new cycle since early 1928, and between January 1 of that year and January 1, 1931, numbers increased 3,279,000 head, or 5.8 per cent. This increase in numbers has not yet been reflected in increased slaughter supplies.

The relative economic position of the cattle industry compared with that of most alternative agricultural enterprises is as favorable as when prices were on a much higher level despite the marked decline in cattle prices and the heavy losses incurred by cattle feeders during the last two years. Compared with that of some enterprises its economic position is even more favorable. Based on farm prices, cattle prices during the three months July to September, 1931, were 65 per cent of the 1925-1929 5-year average for that period, whereas butter prices were 57 per cent, hog prices 56 per cent, corn prices 53 per cent, lamb prices 46 per cent, and wheat prices 30 per cent of their respective averages for that period. The per capita supply of beef from total slaughter in 1930 was the smallest for the 31 years that records are available and the per capita supply so far this year has been about the same as during the corresponding period last year.

Expansion in cattle numbers thus far has occurred largely in the Corn Belt and in some of the States where wheat is a major crop, and most of this increase has been in cattle for dairy production. The relatively low prices of grain compared with livestock prices are resulting in an increasing tendency to expand livestock production in those areas. The expansion in cattle numbers in the western range States has been very small, largely because of the competition for the available range from the large numbers of sheep in those States.

FEEDS

Supplies of feed grains in the United States for the 1931-32 season are slightly below average but much in excess of those of last year, and supplies of hay are slightly less than a year ago and much below average. The total tonnage of feed grains is about 95 per cent of the 5-year average and 113 per cent of that of a year ago. Tame-hay production is slightly larger than last year but the outturn of wild hay is materially smaller. Both hay crops are below average. Supplies of raw materials from which by-product feeds may be produced are large, but market supplies of feedstuffs in recent months have been under last year and the average. Prices of feed grains, hay, and feed-

stuffs are relatively lower than prices of livestock and livestock products. This is especially true in surplus areas where crop outturns are good. However, returns from the 1931 crops in deficit feed areas afford little purchasing power, and many economies are taking place. Feeds are relatively lower in price than poultry and livestock products and the ratio of feed prices to butter prices is widening. The United States corn-hog ratio is considerably above average. Livestock numbers are slightly larger than a year ago.

The November 1 forecast of the corn crop indicated 2,674,000,000 bushels or about 580,000,000 bushels over the short 1930 crop and slightly less than the average production of the last five years. This larger crop was supplemented by farm stocks November 1 of nearly 93,000,000 bushels compared with 72,000,000 bushels last year. The oats crop was estimated at 1,174,000,000 bushels, which, together with the fair-sized farm and market stocks at the beginning of the season, August 1, of nearly 85,000,000 bushels makes an aggregate supply of 1,259,000,000 bushels. Barley production was 216,000,000 bushels compared with 335,000,000 bushels last year. Total supplies of barley, including stocks on farms and in markets on August 1 of 21,000,000 bushels amounted to 237,000,000 bushels. Production of grain sorghums was forecast November 1 at 127,000,000 bushels, compared with 86,500,000 bushels produced in 1930 and the 5-year average production of 125,000,000 bushels. The combined estimated outturn of corn, oats, barley, and grain sorghums on a weight basis was 102,400,000 tons compared with 90,900,000 tons last year and an average of 108,200,000 tons for the previous five years.

Generally speaking, feed supplies are above average in Eastern, Southern, and Southwestern States, but are short in the West North Central and Rocky Mountain States, and westward to the Pacific coast. The 1931-32 supplies of feed grains in the Southern States and in those areas from which the South supplements its local feed crops are much above last year and are above average. The aggregate production on a bushel basis of feed grains, including corn, oats, barley, and grain sorghums, in the Southern States is about two-thirds larger than a year ago and around 19 per cent above the average outturn in 1925-1929. The shortage of corn supplies this year is confined mostly to the Rocky Mountain States, South Dakota, Nebraska, Minnesota, and Wisconsin. In most other areas, production is above that of 1930 and is above average in most States in which production was curtailed by drought last year. The Southern States, which on the average produce about 22 per cent of the corn crop of the United States, raised a crop two-thirds larger this season than last year. It was about 15 per cent above the average production in the seasons 1925 to 1929. The oats crop was much above average in the Southern States, and as far north as Kansas, Missouri, and southern Illinois, being especially good in the Southern States west of the Mississippi. In other States, supplies of oats are below average and are unusually short in the Dakotas, Montana, Wyoming, Minnesota, and Wisconsin. Barley supplies are especially short in Minnesota and the Dakotas where about one-half of the total United States acreage was planted and in Wisconsin, Wyoming, Colorado, and California. In these States a considerable acreage was too poor to harvest in the usual manner and was cut with mowers to be fed unthreshed, or was pastured. Although the Southern States have been relatively unimportant barley producers, especially in those areas east of the Mississippi River, the crop has been increasing in importance during recent years. The 1931 southern crop was 90 per cent above average and 86 per cent larger than a year ago. The percentage of the United States crop grown in these States in the period 1925-1929 averaged not quite 3 per cent but the 1931 crop was slightly over 6 per cent. The production of grain sorghums for all purposes, including sorghums that will be fed in the bundle without threshing, is estimated as equivalent to 127,000,000 bushels compared with a very short crop of 86,500,000 bushels last year and an average production of 125,000,000 bushels during the previous five years.

The quality of the oat crop for the country as a whole is the lowest since 1926, but in the Southern States it is materially above the average of the last 10 years, especially in the heavy producing States west of the Mississippi River. The quality of the United States barley crop is the lowest since 1896 and is generally poor in the important barley States of the Northwest and California as a result of the drought, but since conditions are favorable in the South, the quality of the crop in this section was better than average. The quality of the corn crop is materially better than last year and is of average quality in most sections.

Hay supplies are smaller than a year ago. The reduction is confined principally to the wild-hay crop. The October 1 estimate was 88,000,000 tons compared with 90,000,000 tons for 1930 and the average during the previous five years (subject to revision) of 107,000,000 tons. The reduced production this season resulted chiefly from the drought which has affected the areas from Michigan southwestward to California, and Georgia and adjoining States. Most other sections obtained fairly good yields of hay notwithstanding widespread injury to meadows and new seedings from the drought of last year. Production of all tame hay was 79,000,000 tons, or slightly larger than the 1930 crop. The yield of wild hay of about seven-tenths of a ton per acre, when applied to the usual acreage of wild meadows cut for hay, indicates a crop of 9,000,000 tons. Last year 12,000,000 tons of wild hay were cut. The above statistics do not include sorghos (sweet sorghums) cut for hay. In view of the large acreage and favorable season in the Southwestern States a better-than-average sorgo crop is being harvested. Last year about 4,000,000 tons were produced, compared with a 5-year average of 4,500,000 tons.

Production of alfalfa hay (one of the tame-hay group) was estimated October 1 at 25,500,000 tons, which compares with nearly 29,000,000 tons cut last year. The yield per acre of alfalfa is estimated at 2.08 per cent, or about 20 per cent below the 10-year average and substantially below even the 2.46 tons obtained last year. Lower yields were due to drought and shortage of irrigation water in some of the important alfalfa hay-producing States west of the Mississippi River. The reduction in alfalfa was largely offset by increased outturns of other tame hays. The yield per acre of red, alsike, and crimson clover for hay is reported at 1.45 tons per acre, compared with 1.32 tons in 1930 and an average yield of 1.57 tons. Tame hay supplies have been supplemented this season by a larger-than-usual quantity of grain being cut for hay in the drought area.

Hay supplies are materially larger than last year in States south of the Ohio River. About 10 per cent of this country's hay supplies are produced in the Southern States. Tame hay supplies in this area are 52 per cent larger than last year, but are slightly under average. A relatively better crop was produced east of the Mississippi River than west of it. In the eastern group the alfalfa crop, although small, was nearly double that of a year ago, and was 85 per cent larger than average. West of the river the alfalfa crop was 28 per cent larger than last year but about 10 per cent under average. The southern wild-hay crop was also larger, being 48 per cent above last year in States east of the Mississippi River and 13 per cent larger in the more western areas. The tame-hay crop is slightly larger than last year in the New England States, but in areas from which the South draws most of its supplies the crop is smaller than last year and is under the average. The Intermountain States and California are also short of hay.

The quality of tame hay this season was below the quality last year and below the average. The southern crop is much better in quality than last year's small harvest and is about equal to average.

Pastures on November 1 were in very poor condition in the Southern States. Those in North Carolina, Georgia, Alabama, Oklahoma, and Texas were especially short, with conditions in Mississippi, Arkansas, and Louisiana not much better.

Market supplies of by-product feeds as a group during recent months have been smaller than in the like months last year and smaller than average. However, large supplies of cottonseed are available this season. The mill carry-over of old meal on August 1 was unusually large and totaled 150,000 tons, which, together with the meal equivalent of the carry-over of seed at mills on the same date, made a total carry-over of about 162,000 tons. This compares with 76,000 tons on August 1, 1930. The large November 1 cotton crop estimate indicated an available supply of cottonseed for the 1931-32 season, and if crushed would yield roughly about 2,650,000 tons. Added to the mill carry-over this makes a total potential supply for the season of 2,812,000 tons. Last season 2,238,000 tons were available, and in 1929-30 about 2,327,000 tons. But despite the large cotton crop, marketings of cottonseed have been comparatively light. Only 2,500,000 tons of cottonseed were received at mills in August, September, and October compared with 2,700,000 tons in the same months last year. Normally, about 85 to 90 per cent of the cottonseed supply available for crushing is processed annually but in the previous severe depression of 1920-21 only 76 per cent was crushed. In the next season, however, when only a small

crop of cottonseed was produced, nearly 94 per cent of the supply was received at mills.

Moderately good quantities of cottonseed meal moved into consuming channels during August, September, and October. About 628,000 tons were shipped into trade channels during these three months this year compared with 604,000 tons in August, September and October, 1930. The September and October movement this year was better than during those months last year.

Supplies of wheat offal do not change greatly from year to year. The estimated outturn of wheat feeds at all merchant mills during the last season ended with June totaled 4,745,000 tons, compared with 4,895,000 tons in the previous season, 4,855,000 tons in 1928-29, and 4,834,000 tons in 1927-28. Using official data for July through September and trade data for October, wheat-offal production this season was about 7½ per cent under that of the same period a year earlier. Screenings supplies in the Northwest are small because of the light carry-over and short spring-wheat crop. Present prices of screenings are so low that the movement from country points to large markets is of small volume. Because of the short Canadian spring-wheat crop, screenings supplies in that dominion available for shipment to the United States are greatly reduced.

Domestic supplies of linseed meal are very short, on account of the small flaxseed crop. The 1931 flaxseed crop as indicated by the November 1 estimate is 11,300,000 bushels compared with last year's harvest of more than 21,000,000 bushels and the 5-year average of 21,000,000 bushels.

Wet-process corn grindings, from which gluten feed and meal are by-products, have been of small volume, influenced by the limited outlet for the main product. About 66,500,000 bushels of corn were ground by this process in the period November, 1930 through September, 1931, compared with about 77,500,000 bushels in the same months of the previous season and 88,200,000 bushels in 1928-29. Grindings in past years have fluctuated in general with changes in business activity. Most of the wet-process corn-grinding plants are in the North Central States, where corn supplies are large. The relative cheapness of wheat flour has limited demand for corn meal and reduced hominy-feed production.

The 1931 crop of soybeans is large, reflecting the increased acreage and good, uniform crop conditions. Markets are being found readily for soybean oil at prevailing prices. As a result of this expansion in crushing activities, supplies of soybean meal have increased.

Smaller supplies of alfalfa hay and relative cheapness of wheat mill feed have reduced alfalfa-meal grindings this season compared with the outturn for similar periods for recent years. About 301,000 tons of alfalfa meal were produced in the season ended May, 1931, 351,000 tons in the previous season, and 380,000 tons in 1928-29. Production of meal for June, through October this season totaled approximately 86,000 tons compared with about 154,000 tons in the same months of 1930, and 146,000 tons in this period in 1929. There has been a steady accumulation of meal at mills so far this season and mill stocks at the close of October were about 38,700 tons. Exports have been of very small volume.

Taken as a group, weighted in accordance with their relative importance, and adjusted for seasonal changes, production of by-product feeds in August, 1931, has reached the lowest level in recent years. The August index (preliminary) stood at 84.1 per cent of the average monthly outturn for the period July, 1924, through June, 1930. The September index (preliminary) was 92.1 per cent, and for October was 91.4 per cent. The October, 1930, and October, 1929, index numbers were 98.4 per cent and 100.8 per cent, respectively. Liberal supplies of feed grains and cheap wheat are causing heavy feeding of those products instead of commercial feeds, on the farms. Small farm income from the 1931 crops is also a contributing factor.

Livestock numbers are slightly larger than a year ago. The horse and mule population is smaller, but milk-cow numbers are larger than a year ago. Beef-cattle numbers although still rather low have increased slightly during recent years. Hog production is being stimulated by relatively cheap feed. An increase of 2.5 per cent in the spring pig crop this year over that of 1930 was shown by the June 1 pig survey. The increase in the spring pig crop in the North Central States was 3.7 per cent. In other areas the changes from last year range from decreases of 9.5 per cent in the South Central, 8.6 per cent in the North Atlantic, 1.5 per cent in the South Atlantic, to an increase of 15.8 per

cent in the Western States. The June 1 survey also indicated a marked increase in the number of sows bred or to be bred to farrow this fall if farmers carry out their intentions as expressed at the time the survey was made. The report showed intended increases of 37 per cent for the United States as a whole, 30 per cent in the South Atlantic area, and 42.5 per cent in the South Central States, in sows bred or to be bred to farrow this fall over sows farrowed in the fall of 1930. The increase in the 1931 lamb crop of the United States over 1930 was about 8 per cent. The 1931 lamb crop in the 13 western range sheep States is about 1,650,000 head larger than the crop of 1930, chiefly because of the larger number of ewes in the range States and partly because of a better-than-average lambing. The number of chickens on farms at the first of the year was 2.4 per cent less than on January 1, 1930, according to estimates based mainly upon returns covering farm flocks. No adequate data are available to show changes in commercial flocks. The number of hens and pullets reported in farm flocks on September 1 was 3.3 per cent less than numbers on September 1, 1930, and 4.5 per cent less than the 5-year average for this month. But egg production is relatively heavy, owing to increased feeding and close culling of unproductive hens. A high rate of laying compared with last year is noticeable in States that suffered most severely from the drought. Increases over October 1, 1930, of 20 to 24 per cent are shown in Virginia, West Virginia, and Kentucky and of 10 to 20 per cent in Pennsylvania, Missouri, North Carolina, Tennessee, Mississippi, Oklahoma, and Texas.

The corn-hog ratio is above average. The United States corn-hog ratio based upon farm prices as of October 15 was 14.1 bushels, compared with the 20-year average of 11.2 bushels and shows the relative cheapness of corn compared with hogs. The ratio for the North Central States was 15.3 bushels. These ratios are higher than those for recent months, or a year ago, or for the average of the five Octobers from 1910 to 1914. The ratio in the South Atlantic States, however, was only 10.3 bushels but the ratio was 14 in the South Central group.

The margin between the cost of feed and the price of butter, although narrow, has been widening. The spread between the cost of feed in Minnesota and the price of butter at New York in May, 1931, was the narrowest since the spring of 1914. Some change in the relationship has taken place since last spring, with the continued decline in the price of feeds and the increase in dairy-product prices, but the October spread was still the smallest for that month since 1924. Chicken and egg prices are high compared with feed prices.

A number of factors have developed this season which have limited the movement of hay from surplus to normally deficit areas and also the consumption of commercially mixed feeds. Pasturage and hay supplies in the New England States and in the Southeast are above the average. Inquiry for hay from normally deficit areas in these sections has been very dull, and in general, poor-quality hay has moved into the northwestern drought sections. Considerable quantities of drought-damaged grains have been cut for hay in the latter section. Freight rates are not favorable for moving hay from surplus areas in the eastern part of the North Central States to the needy areas west of the Mississippi River. The northward movement of alfalfa and prairie hay from the Southwest is restricted by present freight rates. Lack of funds and credit on the part of farmers and feeders, low returns from new crops, and liberal supplies of cheap feed grains and wheat have limited demand for straight and commercial feeds.

Prices of feed grains, hay, and feedstuffs are at unusually low levels as are the prices of products into which these commodities may be converted. The October 15 farm price of corn for the United States was 33.4 cents per bushel, the lowest for any October since a considerable time before the World War, and the lowest for any month since November 15, 1921, when it was 41.7 cents per bushel. Oats and hay are extremely cheap compared with past years. The average United States farm price of oats on October 15 was 20.1 cents per bushel and of hay \$8.57 per ton. Feedstuffs as a group are the cheapest since before the World War. The index of feedstuffs averaged 47 per cent of the 1926 level during October compared with 88 per cent in October, 1930.

